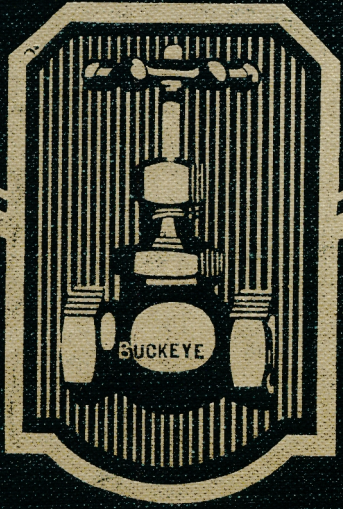
BUCKEYE
BRASS AND IRON SPECIALTIES



BUCKEYE IRON & BRASS WORKS
DAYTON, OHIO, U. S. A.

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Iron & Brass Works
DAYTON, OHIO, U.S.A.

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BUCKEYE

BUCKEYE BRASS AND IRON SPECIALTIES

Brass Valves, Whistles, Brass Cocks
Water Gauges, Brass Specialties
Hydraulic Valves
Iron Valves
Government Valves

No. 3

1920

BUCKEYE IRON & BRASS WORKS
DAYTON, OHIO, U. S. A.

INTRODUCTION

THE Buckeye Iron & Brass Works, founded about 1848, was incorporated in 1876. For more than seventy years we have served our customers in a manner which has merited their confidence in our products.

Our brass and iron foundries, enlarged to meet increasing demands, are still serving many of the companies who were among the first to recognize the quality of our work. No better evidence of service rendered and satisfactory dealing, could be offered by any manufacturer.

Our iron valve department produces only valves of the highest quality. Our brass finishing department is complete in every detail. The entire Buckeye line is made in our own factory by skilled mechanics.

The quality of the Buckeye product has long been a standard among steam-engine builders, for it has never been sacrificed for price. Gasoline-tractor builders, makers of water-pumping systems, gasoline-pump manufacturers, and plumbers, will all find much of interest in this book.

In making this catalog we have arranged our entire line in such a manner as to minimize the work of the prospective buyer. The Index has been carefully detailed. The Figure Number Index is another convenience. The various articles have been illustrated and described, and prices, subject to discount, are listed.

It is our earnest desire that this catalog be of real value to you. In addition, we take this opportunity to offer the service of our long experience for supplying you with any special brass or iron article which the nature of your business may demand.

BUCKEYE IRON & BRASS WORKS

Dayton, Ohio, U. S. A.

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CANADIAN REGISTRATION NUMBERS

BUCKEYE Valves and Fittings are made to conform to Canadian laws and the following list of Registration Numbers is given to assist Canadian purchasing agents.

If any articles not listed here are wanted, it will be advisable to write us, as this list is constantly added to.

Description	Size	Fig. No.	Page	Registration No. Alberta	Ontario	Saskw.	Drawing No.
Standard Brass Globe Valve, Extra Heavy	3/8" to 2"	255	13	502	288	2163	324-0
Standard Brass Angle Valve, Extra Heavy	3/8" to 2"	256	13	483	290	2164	325-0
Regr. Brass Globe Valve, Extra Heavy	3/8" to 2"	278	21	503	289	2168	310-0
Regr. Brass Angle Valve, Extra Heavy	3/8" to 2"	279	21	484	291	2169	311-0
Horizontal Check Valve, with or without Drip Cock, Extra Heavy	1/2" to 1 1/2"	294	36	481	292	2162	315-0
Horizontal Check Valve, Large Seat	1/2" to 1 1/4"	293	36	482	293	2165	305-0
Regrinding Check Valve, Extra Heavy	1/2" to 1 1/2"	323	39	479	294	2163	307-0
Brass "Y" Blow-off Valve	1" to 1 1/4"	331	35	478	296	2135	312-0
Gate Valve, Rising Stem	1" to 2"	53	46	514	297	2134	317-0 318-0 319-0
Gate Valve, Outside Screw and Yoke Type	3/4" to 2 1/2"	315	47	1052	304	2357 2362	B-538 B-524 B-546 B-547 B-548 B-551
Compression Gauge Cocks	1/2" to 3/4"	106	82	838 444	302	2161	329-0 308-0
No. 4 Water Gauge, 3 Rods	3/4"	371	92	443	300	2137	313-0
No. 0 1/2 Water Gauge with Valve, 2 Rods	1/2" to 3/4"	119	89	839	301	2136	330-0 309-0
Water Gauge Guard		See 372	92	1109			334-0
Fusible Plug	3/4" to 1"	382	96	445	303	2140	316-0
Iron Body, Brass Mounted Globe Valve, Flanged and Screwed	2" to 2 1/2"	2	121	442	298	2138	321-0
Iron Body, Brass Mounted Angle Valve, Flanged and Screwed	2" to 2 1/2"	6	121	441	299	2139	320-0

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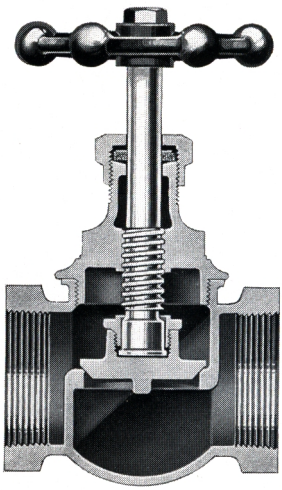
STANDARD BRASS VALVES

DESCRIPTION OF BUCKEYE STANDARD BRASS VALVES

THE Standard Valve body is of good proportions with weight where weight is needed, walls of sufficient thickness and an inside construction which gives a free and easy passage of steam when the valve is open.

All Buckeye Standard Brass Valves are made to pack under pressure. By opening the valve to the limit, the top of the disc is seated against the smooth shoulder on the bottom of the cap, forming a steam-tight fit.



The stem is cast of red brass and has great tensile strength. The machine work of all our valve trimmings adds much to their efficiency

The disc, which is held to the stem by a lock nut, can easily be removed and replaced when worn. Its swiveling motion prevents an uneven wearing of the seating surface and insures a solid and steam-tight contact when the valve is closed. In the smaller sizes, ½" and under, the stem and disc are cast in one piece. By use of the solid stem and disc for the smaller sizes, a stem of greater diameter can be used, and in this way greater strength is secured.

The cap, which screws into the body and in which the stem operates, is so constructed as to protect the body threads from corrosion by steam and thus insures their long life. Its construction also provides a high lift for the stem and disc so there is no obstruction to the steam passage when the valve is open.

The hexagon nut screws on to the cap and contains the packing which makes a steam-tight fit around the stem.

The Non-Breakable Malleable Iron Wheel used regularly on Buckeye Valves, is cast with a ball on each spoke to give a good, firm grip for turning.

Before shipment is made, every valve is carefully tested for material and workmanship. The medium or regular weight valve is guaranteed for steam working pressures up to 125 pounds, and the extra heavy to 250 pounds. The testing, however, provides for a large margin of safety.

STANDARD BRASS VALVES

SCREW ENDS

Regular Pattern for Working Pressures up to 125 lbs.
Extra Heavy Pattern for Working Pressures up to 250 lbs.

ANGLE
Regular, Fig. 33
Extra Heavy, Fig. 256

GLOBE
Regular, Fig. 32
Extra Heavy, Fig. 255

CROSS
Regular, Fig. 46
Extra Heavy, Fig. 257

THE Buckeye Standard Valve is very simple in construction, as shown in the sectional view on page 12. The smaller sizes, ⅛″ to ½″, are fitted with a stiff stem to insure a solid seat, while the sizes from ¾″ to 3″ are equipped with a stem and special brass disc. Sizes ¾″ and above in the Extra Heavy are packed with a gland. These valves can be packed under pressure, a feature which all engineers appreciate.

These valves can be furnished with male or female unions, finished and with wood wheel. Prices quoted on application.

List prices of parts for Standard Valves are on page 19. For general dimensions, see page 18. Extra Heavy dimensions on page 25.

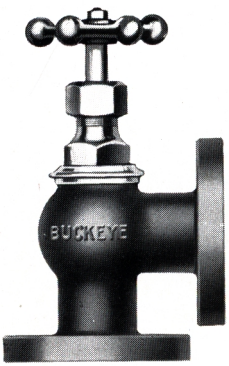
PRICE LIST

Size ..... Inches	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Fig. 32, Globe, Regular, Rough	0 72	0 72	0 77	1 00	1 26	1 80	2 52	3 50	5 30	10 00	14 40
Fig. 33, Angle, Regular, Rough	72	72	77	1 00	1 26	1 80	2 52	3 50	5 30	10 00	14 40
Fig. 46, Cross, Regular, Rough	.....	1 25	1 35	1 50	2 00	2 50	3 50	5 00	8 00	16 00	24 00
Fig. 252, Globe, Regular, Finished with Brass Wheel	1 75	1 90	2 15	2 50	3 10	3 65	5 25	7 25	10 75	22 00	33 50
Fig. 253, Angle, Regular, Finished with Brass Wheel	1 75	1 90	2 15	2 50	3 10	3 65	5 25	7 25	10 75	22 00	33 50
Fig. 254, Cross, Regular, Finished with Brass Wheel	2 40	2 60	2 90	3 30	4 20	4 90	7 00	9 70	14 30	29 30	44 70
Fig. 255, Globe, Extra Heavy, Rough	.....	1 30	1 50	1 90	2 50	3 50	5 00	7 00	11 00	20 00	29 00
Fig. 256, Angle, Extra Heavy, Rough	.....	1 30	1 50	1 90	2 50	3 50	5 00	7 00	11 00	20 00	29 00
Fig. 257, Cross, Extra Heavy, Rough	.....	2 50	2 50	3 00	4 00	5 00	7 00	10 00	16 00	32 00	48 00

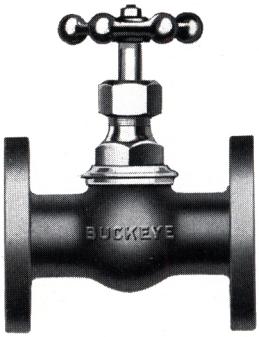
STANDARD BRASS VALVES

FLANGE ENDS

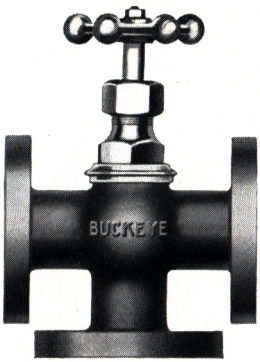
Regular Pattern for Working Pressures up to 125 lbs.
Extra Heavy Pattern for Working Pressures up to 250 lbs.



ANGLE
Regular, Fig. 39
Extra Heavy, Fig. 260



GLOBE
Regular, Fig. 38
Extra Heavy, Fig. 259



CROSS
Regular, Fig. 258
Extra Heavy, Fig. 261

THE valves on this page are of the same construction as those on the preceding page except that they have flanged instead of screwed ends. The seat opening has been made large and the inside of the body has been constructed so that there is little or no resistance offered to a flow of steam when the valve is opened. The large seat surface, however, is security against leakage. Nothing but the highest grade of red brass is used on our Buckeye Standard Valves insuring absolute safety and long wear.

To repack these valves, turn the hand wheel up as high as it will go, loosen the stuffing box, and insert the new packing, while full steam pressure is turned on.

List prices of parts for Standard Valves on page 19. For general dimensions, see page 18. Extra heavy dimensions on page 25.

PRICE LIST

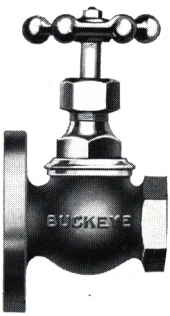
Size ..... Inches	½	¾	1	1¼	1½	2	2½	3	3½	4
Fig. 38, Globe, Regular	4 50	5 00	6 75	8 50	10 50	16 00	23 00	35 00	50 00	70 00
Fig. 39, Angle, Regular	4 50	5 00	6 75	8 50	10 50	16 00	23 00	35 00	50 00	70 00
Fig. 258, Cross, Regular	5 25	7 00	9 00	12 00	15 75	22 00	33 00	45 00	75 00	100 00
Fig. 259, Globe, Extra Heavy	6 00	8 00	11 00	14 00	20 00	33 00	48 00	65 00	90 00	
Fig. 260, Angle, Extra Heavy	6 00	8 00	11 00	14 00	20 00	33 00	48 00	65 00	90 00	
Fig. 261, Cross, Extra Heavy	9 25	12 25	17 00	23 00	33 00	48 00	72 00			

STANDARD BRASS VALVES

SCREW AND FLANGE ENDS

Regular Pattern for Working Pressures up to 125 lbs.
Extra Heavy Pattern for Working Pressures up to 250 lbs.

ANGLE
Regular, Fig. 263
Extra Heavy, Fig. 265



GLOBE
Regular, Fig. 262
Extra Heavy, Fig. 264

THE construction of these valves is the same as that of the valves on the preceding pages except that one end is flanged and the other end screwed. In ordering, give full specifications for flanges and state whether inlet or outlet is to be flanged. This is very important. List prices are for valves with flange on one end and female thread on other end. An additional charge will be made for this style when furnished with male instead of female end.

All Buckeye Standard Valves can be repacked under pressure. The importance and convenience of this feature cannot be overestimated.

List prices of parts for Standard Valves are on page 19. For general dimensions, see page 18.

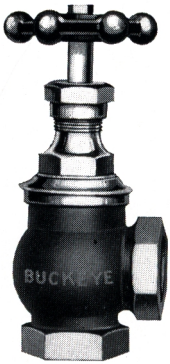
PRICE LIST

Size ..... Inches	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Fig. 262, Globe, Regular	1 40	2 10	3 00	3 70	5 30	7 10	10 10	14 90	21 10	
Fig. 263, Angle, Regular	1 40	2 10	3 00	3 70	5 30	7 10	10 10	14 90	21 10	
Fig. 264, Globe, Extra Heavy	1 60	2 60	3 80	5 20	7 20	9 80	14 40	23 90	33 20	
Fig. 265, Angle, Extra Heavy	1 60	2 60	3 80	5 20	7 20	9 80	14 40	23 90	33 20	

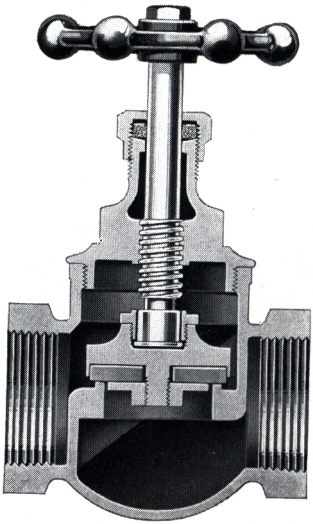
STANDARD BRASS VALVES

JENKINS DISC

Regular Pattern for Working Pressures up to 125 lbs.



ANGLE
Regular, Fig. 37



GLOBE
Regular, Fig. 36

THE valves listed here are built with the Jenkins Renewable Disc. As can be seen in the sectional view, a brass disc holder with a special disc replaces the brass disc ordinarily used. The Jenkins Disc presents a slightly yielding surface to the valve seat and is flexible enough to adapt itself to any inequalities in the seat, thus insuring perfect contact. The special disc under normal conditions will give long service. It is very easy, however, to insert a new disc should a leak occur, and the valve will then be as efficient as new.

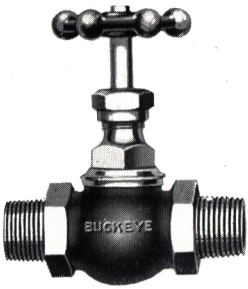
PRICE LIST

Size ..... Inches	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Fig. 36, Globe, Screw Ends	1 10	1 20	1 60	2 20	2 80	4 00	5 50	8 00	15 75	22 00
Fig. 37, Angle, Screw Ends	1 10	1 20	1 60	2 20	2 80	4 00	5 50	8 00	15 75	22 00
Fig. 271, Cross, Screw Ends	1 70	2 00	2 25	2 50	3 25	4 75	6 25	9 00	20 00	27 50
Fig. 272, Globe, Flange Ends	3 50	4 00	4 40	5 00	6 00	9 00	11 00	16 50	25 00	34 00
Fig. 273, Angle, Flange Ends	3 50	4 00	4 40	5 00	6 00	9 00	11 00	16 50	25 00	34 00
Fig. 274, Cross, Flange Ends	.....	.....	7 00	8 00	9 00	12 00	15 00	23 00	33 00	44 00
Discs for J. D. Valves	03	04	04	05	06	09	12	18	24	33

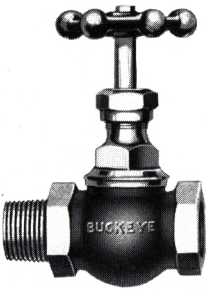
STANDARD BRASS VALVES

MALE ENDS — MALE AND FEMALE ENDS

Regular Pattern for Working Pressures up to 125 lbs.



GLOBE
Male Ends
Fig. 44



GLOBE
Male and Female Ends
Fig. 267

THE valves listed on this page have special endings to meet special needs. The Standard valve trimmings are used on these models and the body construction is the same as those on the preceding pages. Two male ends, male and female ends, or one male and one union end in either the globe or angle can be had. This completes the Buckeye line of Standard valves.

Buckeye Standard Valves are made to pack under pressure. To repack valve, it is only necessary to turn the hand wheel open to the limit before removing the packing nut.

These valves are not regularly carried in stock and orders for them will not be subject to cancellation.

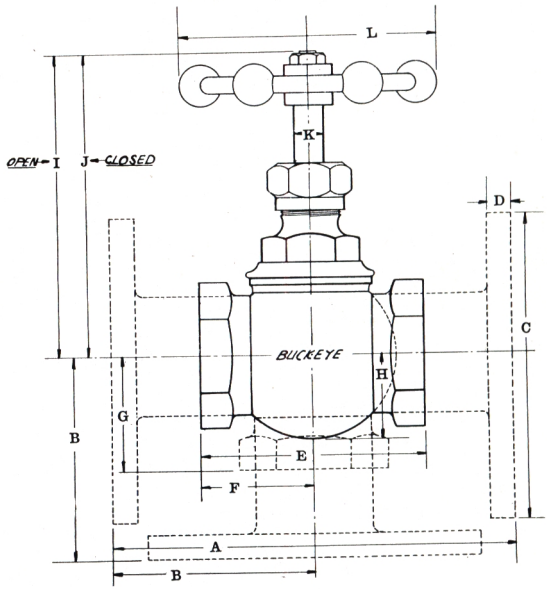
PRICE LIST

Size .....Inches	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Fig. 44, Globe, Regular, Male Ends....	1 10	1 25	1 65	2 50	3 30	5 00	7 50	11 00	17 00	24 00
Fig. 266, Angle, Regular, Male Ends ..	1 10	1 25	1 65	2 50	3 30	5 00	7 50	11 00	17 00	24 00
Fig. 45, Globe, Reg., Male End & Union	1 35	1 65	2 20	3 15	4 20	6 00	8 75	13 00	21 00	29 00
Fig. 267, Globe, Reg'r, Male & Female	1 00	1 15	1 50	2 25	3 00	4 50	6 75	10 00	15 50	22 00
Fig. 268, Angle, Reg'r, Male & Female	1 00	1 15	1 50	2 25	3 00	4 50	6 75	10 00	15 50	22 00

STANDARD BRASS VALVES

GLOBE, ANGLE, AND CROSS

Dimensions below refer to valves shown on pages 13, 14, 15, 17.

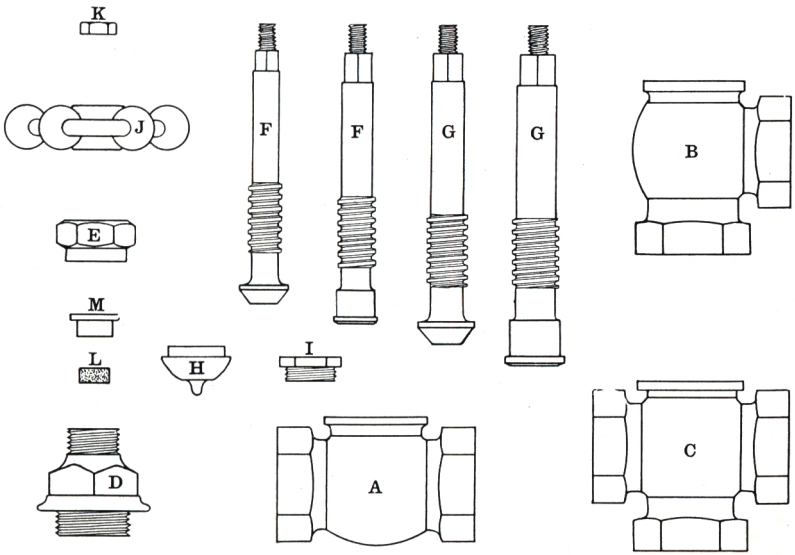


DIMENSIONS

Size of Valve.....Inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
A Face to face, Flange Ends, Globe		3	3	3 1/2	4	4 1/2	5	6	7	7 3/4	8 1/2
B Center to face, Flange Ends, Angle		1 5/8	1 5/8	2	2 1/4	2 5/8	2 7/8	3 1/8	3 5/8	4 1/4	4 1/2
C Diameter of Flanges		2 1/2	2 1/2	3	3 1/2	4	4 1/2	5	6	7	7 1/2
D Thickness of Flanges		3/32	3/32	5/16	1/32	3/8	13/32	7/16	1/2	9/16	5/8
E Face to face, Screw Ends, Globe	1 9/16	1 13/16	2	2 7/16	2 23/32	3 3/16	3 23/32	4 1/16	4 3/4	6 1/2	7 7/8
F Center to side face, Screw Ends, Angle	3/4	13/16	1 1/16	1 5/16	1 13/32	1 9/16	1 3/4	1 15/16	2 3/8	2 15/16	3 1/16
G Center to bottom face, Screw Ends, Angle	3/4	1	1 3/32	1 9/32	1 17/32	1 23/32	1 15/16	2 5/32	2 9/16	3 5/16	4 1/8
H Center to bottom of body	17/32	11/32	23/32	27/32	1 5/32	1 9/32	1 7/16	1 9/16	1 7/8	2 3/32	2 7/8
I Center to top of stem when open, Globe	3 3/16	3 1/4	3 1/2	4	4 5/16	4 7/8	5 5/8	6 3/16	7 3/16	9 3/4	12
I Center to top of stem when open, Angle	3 1/16	3 3/16	3 3/8	3 23/32	4 7/16	5 1/8	5 13/16	6 5/16	7 5/16	9 1/4	12
J Center to top of stem when closed, Globe	2 15/16	3	3 3/16	3 5/8	4	4 1/2	5 1/8	5 1/2	6 3/8	8 3/4	11
J Center to top of stem when closed, Angle	2 13/16	2 15/16	3 1/16	3 17/32	4 1/8	4 3/4	5 5/16	5 1/2	6 3/8	8 1/4	11
K Diameter of Stem	5/16	5/16	21/64	3/8	7/16	1/2	33/64	35/64	39/64	23/32	13/16
L Diameter of Hand Wheel	1 5/8	1 5/8	2	2 5/16	2 5/8	3 1/16	3 3/8	3 7/8	4 1/2	6 1/2	8

PARTS PRICE LIST

STANDARD GLOBE, ANGLE, AND CROSS VALVES



PRICE LIST

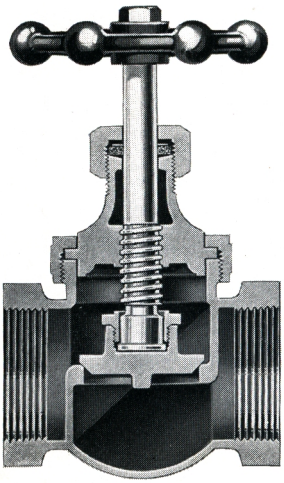
	Inches	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3
A	Globe Body	0 20	0 30	0 38	0 50	0 64	0 94	1 24	1 65	2 92	5 06	8 72
B	Angle Body	20	30	38	50	64	94	1 24	1 65	2 92	5 06	8 72
C	Cross Body	35	36	42	68	94	1 15	1 34	2 05	3 48	6 00	11 12
D	Cap	15	18	20	25	30	45	70	90	1 10	2 20	3 90
E	Stuffing Box	09	10	11	18	22	25	27	30	40	70	1 00
F	Globe Stem	16	18	20	27	30	40	55	75	1 10	1 45	2 55
G	Angle and Cross Stems	16	18	20	27	30	40	55	75	1 10	1 45	2 55
H	Disc					15	18	25	35	60	1 10	2 35
I	Disc Lock Nut					05	07	10	12	15	20	35
J	Wheel	08	09	10	12	14	16	18	22	30	45	60
K	Wheel Lock Nut	05	05	06	06	07	07	07	09	11	15	25
L	Packing	05	07	07	07	09	09	10	11	13	15	30
M	Gland					10	11	16	18	22	35	45
N	Washer				01	01	02	02	03	03	05	07

REGRINDING BRASS VALVES

DESCRIPTION OF BUCKEYE REGRINDING BRASS VALVES

THE Buckeye Brass Regrinding Valve is built for long usage. It has been scientifically designed so that every bit of weight is properly placed to increase its durability and excellency of service.

Only the very best grade of copper is used in the body castings. Absolutely no scrap copper is used, as is customary on cheaper, ordinary brass valves of some manufacturers. With the proper additions of tin and zinc, an alloy of great tensile strength is secured, and this is largely responsible for the long-wearing qualities of these valves.



A shoulder on the cap fits over the neck of the body and is held by the hexagon lock nut as shown in the sectional view. The threads on the stem, as well as the threads on the body, do not come in contact with the steam, and are thus fully protected from corrosive action.

This valve is easily repacked under pressure—a feature of great importance. To repack under pressure, open valve to the limit. This carries the top of the disc against the smooth surface on the bottom of the cap and forms a steam-tight joint. The hexagon packing nut at the top of the stem can then be loosened and new packing put in.

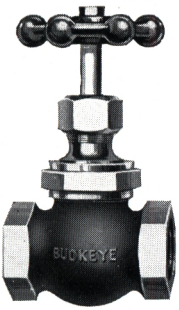
To regrind the Buckeye Regrinding Valve, unscrew the hexagon union ring and remove the trimmings. Place a small wire through the stem and disc lock nut to hold the disc firm with the stem. Put some emery valve-grinding compound on the disc and replace the trimmings, leaving the hexagon union ring loose. A right-and-left movement of the hand wheel will move the disc back and forth on the seat, and the grinding compound will produce a smooth, even seat. In this way the valve can, without expense, be made like new, and the engineer is caused little or no inconvenience. After regrinding, the disc and seat should be thoroughly cleaned and the wire removed before the trimmings are replaced and the union ring tightened.

REGRINDING BRASS VALVES

SCREW ENDS

Regular Pattern for Working Pressures up to 125 lbs.
Extra Heavy Pattern for Working Pressures up to 250 lbs.

ANGLE
Regular, Fig. 35
Extra Heavy, Fig. 279



GLOBE
Regular, Fig. 34
Extra Heavy, Fig. 278

CROSS
Regular, Fig. 52
Extra Heavy, Fig. 280

A detailed description of the Buckeye Regrinding Valve is given on page 20. The smaller sizes from ⅛" to ½" inclusive are made with the stiff stem. The larger sizes have the stem with the movable disc. The increased efficiency and long life of this style valve justifies the careful consideration of every engineer. The disc and seat are made of the finest quality of material, but when from long wear, dirty water, or some other cause the seat is worn uneven, a new seating surface can be ground without expense and the efficiency of the valve is thus renewed.

These valves can be repacked under pressure by turning the hand-wheel as high as it will go and loosening the stuffing-box to insert the packing.

When ordered, British Standard Pipe Thread will be furnished without extra charge.

List prices of parts for Buckeye Regrinding Valves are on page 26. For general dimensions, see pages 24 and 25.

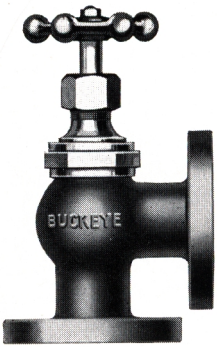
PRICE LIST

Size .....Inches	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Fig. 34, Globe, Regular, Rough ..	70	70	85	1 15	1 45	2 00	2 80	3 90	6 20	12 00	16 50
Fig. 35, Angle, Regular, Rough..	70	70	85	1 15	1 45	2 00	2 80	3 90	6 20	12 00	16 50
Fig. 52, Cross, Regular, Rough....	1 00	1 00	1 25	1 50	2 00	2 70	3 50	5 10	8 00	16 00	24 00
Fig. 275, Globe, Finished	1 75	1 90	2 15	2 50	3 10	3 65	5 25	7 25	10 75	22 00	33 50
Fig. 276, Angle, Finished	1 75	1 90	2 15	2 50	3 10	3 65	5 25	7 25	10 75	22 00	33 50
Fig. 277, Cross, Finished.....	2 40	2 60	2 90	3 30	4 20	4 90	7 00	9 70	14 30	29 30	44 70
Fig. 278, Globe, Extra Heavy.....	.....	90	1 10	1 50	2 30	3 60	5 10	7 10	10 90	19 50	29 00
Fig. 279, Angle, Extra Heavy.....	.....	90	1 10	1 50	2 30	3 60	5 10	7 10	10 90	19 50	29 00
Fig. 280, Cross, Extra Heavy.....	.....	1 20	1 30	1 90	2 90	4 50	6 30	8 60	13 10	23 40	34 50

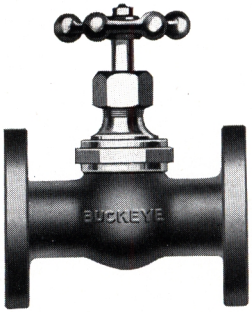
REGRINDING BRASS VALVES

FLANGE ENDS

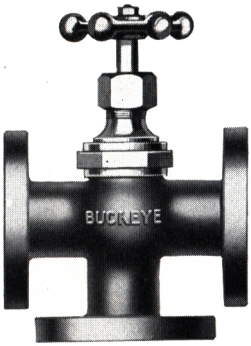
Regular Pattern for Working Pressures up to 125 lbs.
Extra Heavy Pattern for Working Pressures up to 250 lbs.



ANGLE
Regular, Fig. 282
Extra Heavy, Fig. 285



GLOBE
Regular, Fig. 281
Extra Heavy, Fig. 284



CROSS
Regular, Fig. 283
Extra Heavy, Fig. 286

THE valves on this page are the same as those on the preceding page except that they have flanged instead of screwed ends. Hexagon bonnet rings are furnished regularly on all sizes. The economy of the regrinding valve is responsible for its great popularity, for the generous original seating surface makes it possible to regrind the seat as often as necessary, keeping its efficiency intact.

These valves are easily repacked under pressure by turning the valve wide open.

List prices of parts for Buckeye Regrinding Valves are on page 26. For general dimensions, see pages 24 and 25.

PRICE LIST

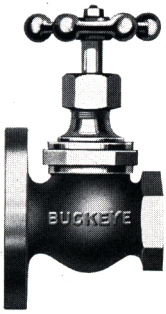
Size ..... Inches	⅜	½	¾	1	1¼	1½	2	2½	3
Fig. 281, Globe, Regular	2 20	3 40	4 70	5 80	8 00	11 00	14 50	21 00	29 00
Fig. 282, Angle, Regular	2 20	3 40	4 70	5 80	8 00	11 00	14 50	21 00	29 00
Fig. 283, Cross, Regular	3 20	5 10	7 00	8 40	12 00	15 00	20 50	29 00	40 00
Fig. 284, Globe, Extra Heavy	2 50	4 10	5 80	7 60	11 00	14 00	20 00	32 00	44 00
Fig. 285, Angle, Extra Heavy	2 50	4 10	5 80	7 60	11 00	14 00	20 00	32 00	44 00
Fig. 286, Cross, Extra Heavy	3 50	5 90	8 20	10 50	14 50	19 00	27 00	43 00	57 00

REGRINDING BRASS VALVES

SCREW AND FLANGE ENDS

Regular Pattern for Working Pressures up to 125 lbs.
Extra Heavy Pattern for Working Pressures up to 250 lbs.

ANGLE
Regular, Fig. 288
Extra Heavy, Fig. 290



GLOBE
Regular, Fig. 287
Extra Heavy, Fig. 289

IN order to meet every demand for a high-grade regrinding valve, we furnish this model with one end flanged and one screwed end. It will also be furnished with both male ends or with male and female ends when ordered. It is important when ordering to state definitely whether inlet or outlet end is to be flanged. The inside construction is the same as the other Buckeye Regrinding Valves and they can be repacked under pressure by simply opening the valve to the limit.

These valves can be furnished with British Standard Pipe thread when ordered without additional charge.

List prices of parts for Buckeye Regrinding Valves are on page 26. For general dimensions, see pages 24 and 25.

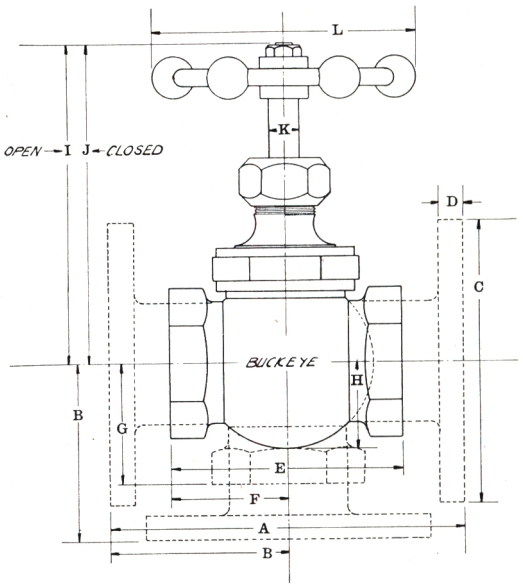
PRICE LIST

Size ..... Inches	⅜	½	¾	1	1¼	1½	2	2½	3
Fig. 287, Globe, Regular, Fl. & Sc.....	1 40	2 10	3 00	3 70	5 30	7 10	10 10	14 90	21 10
Fig. 288, Angle, Regular, Fl. & Sc.....	1 40	2 10	3 00	3 70	5 30	7 10	10 10	14 90	21 10
Fig. 289, Globe, Extra Hvy., Fl. & Sc.....	1 60	2 60	3 80	5 20	7 20	9 80	14 40	23 90	33 20
Fig. 290, Angle, Extra Hvy., Fl. & Sc.....	1 60	2 60	3 80	5 20	7 20	9 80	14 40	23 90	33 20

REGRINDING BRASS VALVES

GLOBE, ANGLE, AND CROSS

Dimensions below refer to valves shown on pages 21, 22, 23.



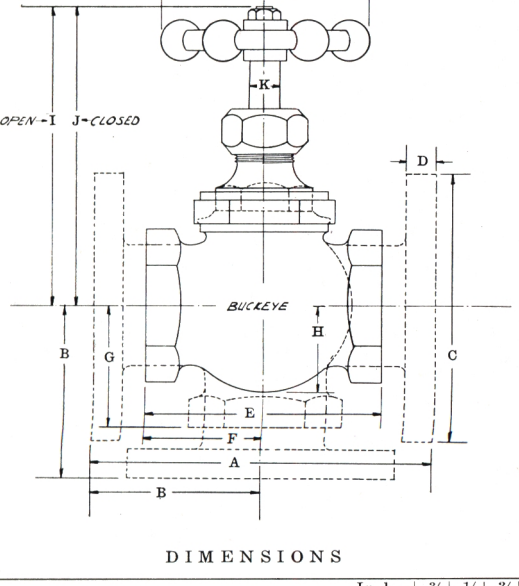
DIMENSIONS

Size of Valve ..... Inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
A Face to face, Flange Ends, Globe	3	3	3 1/2	4	4 1/2	5	6	7	7 3/4	8 1/2	
B Center to face, Flange Ends, Angle	1 5/8	1 5/8	2	2 1/4	2 5/8	2 7/8	3 1/8	3 5/8	4 1/4	4 1/2	
C Diameter of Flanges	2 1/2	2 1/2	3	3 1/2	4	4 1/2	5	6	7	7 1/2	
D Thickness of Flanges	9/32	9/32	5/16	11/32	3/8	13/32	7/16	1/2	9/16	5/8	
E Face to face, Screw Ends, Globe	1 9/16	1 13/16	2	2 7/16	2 3/4	3 5/32	3 23/32	4 5/32	4 13/16	6 1/2	7 7/8
F Center to side face, Screw Ends, Angle	3/4	7/8	1 1/16	1 7/16	1 13/32	1 7/16	1 3/4	1 15/16	2 13/32	4 1/16	3 11/16
G Center to bottom face, Screw Ends, Angle	3/4	1	1 3/32	1 5/16	1 17/32	1 23/32	1 15/16	2 5/32	2 11/16	4 1/16	4 1/8
H Center to bottom of body	17/32	19/32	23/32	27/32	1 5/32	1 13/32	1 7/16	1 13/16	1 7/8	2 13/32	2 7/8
I Center to top of stem when open, Globe	3 3/16	3 1/4	3 1/2	4	4 5/16	4 7/8	5 5/8	6 3/16	7 3/16	10 1/4	11
I Center to top of stem when open, Angle	3 1/16	3 3/16	3 3/8	3 29/32	4 7/16	5 1/8	5 13/16	6 7/16	7 7/16	10	10 3/4
J Center to top of stem when closed, Globe	2 15/16	3	3 3/16	3 5/8	4	4 1/2	5 1/8	5 1/2	6 3/8	9 1/4	10
J Center to top of stem when closed, Angle	2 13/16	2 15/16	3 1/16	3 17/32	4 1/8	4 3/4	5 5/16	5 1/2	6 3/8	9	9 3/4
K Diameter of stem	5/16	5/16	21/64	3/8	7/16	1/2	33/64	35/64	39/64	23/32	13/16
L Diameter of Hand Wheel	1 5/8	1 5/8	2	2 5/16	2 5/8	3 1/16	3 3/8	3 7/8	4 1/2	6 1/2	8

EXTRA HEAVY, STANDARD, AND REGRINDING BRASS VALVES

GLOBE, ANGLE, AND CROSS

Dimensions below refer to Extra Heavy Valves on pages 13 to 23.

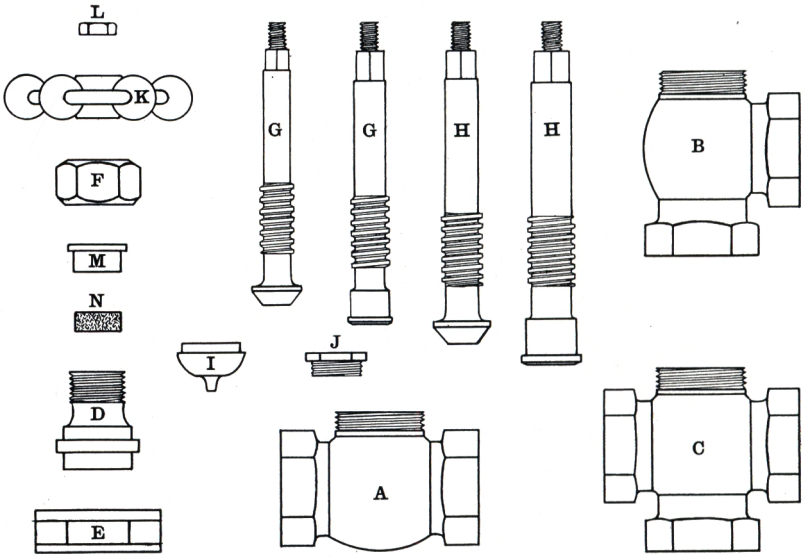


DIMENSIONS

Size of Valve ..... Inches	3/8	1/2	3/4	1	1 1/4	1 1/2	2
A Face to face, Flange Ends, Globe	3 1/4	3 7/8	4 1/2	4 3/4	5 1/4	6 3/8	6 7/8
B Center to face, Flange Ends, Angle	1 3/4	2 1/16	2 5/16	2 5/8	2 15/16	3 3/16	3 3/4
C Diameter of Flanges	2 1/2	3	3 1/2	4	4 1/2	5	6
D Thickness of Flanges	11/32	13/32	7/16	1/2	17/32	9/16	5/8
E Face to face, Screw Ends, Globe	2	2 1/2	2 7/8	3 7/16	3 7/8	4 3/4	5
F Center to side face, Screw Ends, Angle	1 1/16	1 1/4	1 7/16	1 11/16	2	2 1/4	2 5/8
G Center to bottom face, Screw Ends, Angle	1 1/8	1 5/16	1 9/16	1 13/16	2 1/16	2 1/4	2 5/8
H Center to bottom of body	5/8	23/32	13/16	1 1/8	1 3/8	1 5/8	1 31/32
I Center to top of stem when open, Globe	3 1/2	4 1/8	4 5/16	5 1/8	5 11/16	6 3/16	7 3/16
I Center to top of stem when open, Angle	3 1/2	4 1/4	4 9/16	5 3/8	6	6 5/16	7 5/16
J Center to top of stem when closed, Globe	3 3/16	3 3/4	4	4 3/4	5 3/16	5 1/2	6 3/8
J Center to top of stem when closed, Angle	3 3/16	3 7/8	4 1/4	5	5 1/2	5 5/8	6 1/4
K Diameter of Stem	21/64	3/8	7/16	1/2	33/64	39/64	39/64
L Diameter of Hand Wheel	2	2 5/16	2 5/8	3	3 7/16	3 7/8	4 5/8

PARTS PRICE LIST

REGRINDING GLOBE, ANGLE, AND CROSS VALVES



PRICE LIST

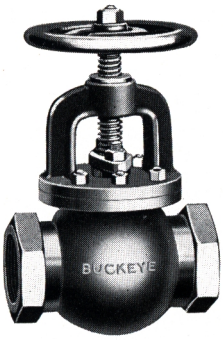
	Inches	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3
A	Globe Body	0 30	0 35	0 54	0 60	0 73	1 18	1 56	1 94	3 27	7 14	9 54
B	Angle Body	30	35	54	60	73	1 18	1 56	1 94	3 27	7 14	9 54
C	Cross Body	48	50	60	75	1 00	1 30	1 75	2 55	4 00	8 00	12 00
D	Cap	15	18	20	25	30	45	70	90	1 10	2 20	3 90
E	Hexagon Ring	13	13	15	20	25	35	45	70	1 00	1 80	2 50
F	Stuffing Box	09	10	11	18	22	25	27	30	40	70	1 00
G	Globe Stem	16	18	20	27	30	40	55	75	1 10	1 45	2 55
H	Angle and Cross Stem	16	18	20	27	30	40	55	75	1 10	1 45	2 55
I	Disc					15	18	25	35	60	1 10	2 35
J	Disc Lock Nut					05	07	10	12	15	20	35
K	Wheel	08	09	10	12	14	16	18	22	30	45	60
L	Wheel Lock Nut	05	05	06	06	07	07	07	09	11	15	25
M	Gland					10	11	16	18	22	35	45
N	Packing	05	07	07	07	09	09	10	11	13	15	30
O	Washer				01	01	02	02	03	03	05	07

BRASS YOKE TYPE VALVES

SCREW ENDS

Regular Pattern for Working Pressures up to 125 lbs.
Extra Heavy Pattern for Working Pressures up to 250 lbs.

ANGLE
Regular, Fig. 270
Extra Heavy, Fig. 423



GLOBE
Regular, Fig. 269
Extra Heavy, Fig. 422

THE Brass Yoke Type Valve is cast on a heavy pattern and is only made in sizes above 2". The yoke is made with a flange which is held to the body flange by studs and nuts. The stem is guided in its action by the yoke and this construction guarantees perfect alignment and proper seating of the disc.

The threads of the stem do not come in contact with the steam. This is a distinct advantage, as it protects them from corrosive action and makes it possible to keep them well oiled.

Inasmuch as there is not a steady demand for these valves, they are not carried in stock but are considered special and made to order only. If we are ordered to stop work after production of an order has been started, customer will be billed with expense incurred.

For general dimensions, see page 29.

PRICE LIST

Size ..... Inches	2	2½	3	3½	4
Fig. 269, Globe, Screwed, Regular	15 50	18 00	26 00	37 00	47 00
Fig. 270, Angle, Screwed, Regular	15 50	18 00	26 00	37 00	47 00
Fig. 422, Globe, Screwed, Extra Heavy	17 00	24 00	34 00	47 00	62 00
Fig. 423, Angle, Screwed, Extra Heavy	17 00	24 00	34 00	47 00	62 00

BRASS YOKE TYPE VALVES

FLANGE ENDS

Regular Pattern for Working Pressures up to 125 lbs.
Extra Heavy Pattern for Working Pressures up to 250 lbs.

ANGLE
Regular, Fig. 335
Extra Heavy, Fig. 421

GLOBE
Regular, Fig. 325
Extra Heavy, Fig. 420

THE valves shown on this page are the same as those on the preceding page except that these have flanged ends. The outside screw and yoke type valve is especially adaptable for heavy pressures and can be depended on for long and severe usage. The threads of the stem do not come in contact with the steam and are not subjected to corrosive action.

The large iron hand wheel supplied on these valves makes them easy to operate, and if desired can be removed and placed on valve only for operation.

Inasmuch as there is not a steady demand for these valves, they are not carried in stock but are considered special and made to order only. If we are ordered to stop work after production on an order has been started, customer will be billed with expense incurred.

General dimensions are on opposite page.

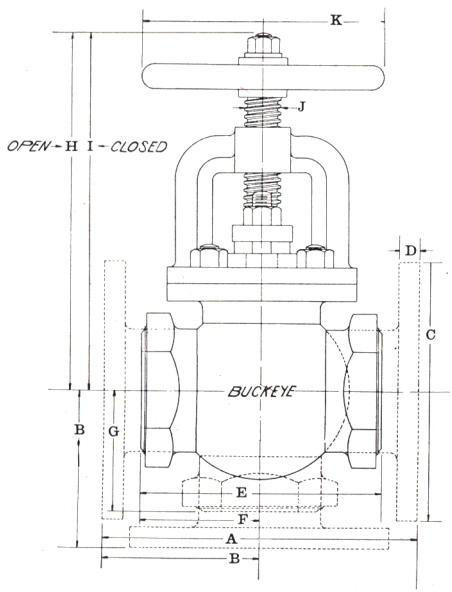
PRICE LIST

Size ..... Inches	2	2½	3	3½	4
Fig. 325, Globe, Flanged, Regular	17 00	24 00	34 00	47 00	62 00
Fig. 335, Angle, Flanged, Regular	17 00	24 00	34 00	47 00	62 00
Fig. 420, Globe, Flanged, Extra Heavy	28 00	40 00	44 00	63 00	80 00
Fig. 421, Angle, Flanged, Extra Heavy	28 00	40 00	44 00	63 00	80 00

BRASS YOKE TYPE VALVES

GLOBE AND ANGLE

Dimensions below refer to valves shown on pages 27 and 28.



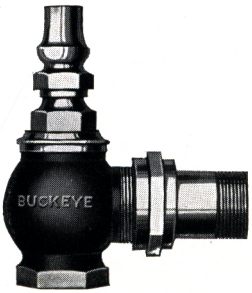
DIMENSIONS

Size of Valve ..... Inches	2½	3	3½	4
A Face to face, Flanged, Globe	7¾	8½	9¾	10
B Center to face of inlet or outlet, Flanged, Angle	4¼	4½	5⅛	5⅜
C Diameter of Flange	7·	7½	8½	9
D Thickness of Flange	9/16	5/8	11/16	11/16
E Face to face, Screwed Ends, Globe	6½	7⅞	9	9¾
F Center to side face, outlet, Screwed Ends, Angle	3¼	3 11/16	4⅞	5½
G Center to bottom face, inlet, Screwed Ends, Angle	4 1/16	4⅛	4⅞	5¾
H Center to top of stem when open, Globe	10⅝	11⅝	12⅞	13⅞
H Center to top of stem when open, Angle	10⅝	11⅞	12¾	13⅞
I Center to top of stem when closed, Globe	9⅝	10½	11⅝	12⅜
I Center to top of stem when closed, Angle	9⅝	10¾	11½	12⅜
J Diameter of Stem	1	1	1⅛	1¼
K Diameter of Hand Wheel	6½	8	8⅞	10

RADIATOR VALVES

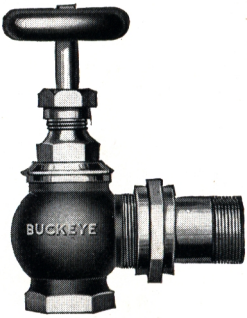
BRASS DISC

Wood Wheel or Lock Shield Construction, with or without Union.



LOCK SHIELD CONSTRUCTION
Fig. 292

KEY
Fig. 58



WOOD WHEEL
Fig. 55

THE Buckeye Radiator Valves are neat in appearance, made of the best material, and are particularly desirable for high-class jobs because of their careful finish. They can be used with either hot water or steam heating systems with equally good results. Highest grade wheels are furnished on the standard models. The lock shield construction is desirable for large heating systems which are to be centrally controlled. They have the same list prices as the wood wheels. Figure numbers refer to wood wheel models and lock shield respectively.

If a quantity of lock shield valves is ordered, specify how many keys are wanted; otherwise only one key will be furnished and charged for with each lot of a size.

The wood wheel model will be furnished without the union if desired, and the lock shield valve will be supplied either with or without the union.

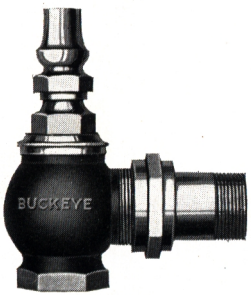
PRICE LIST

Size ..... Inches	⅜	½	¾	1	1¼	1½	2
Fig. 54 or 291, Rough Body, Female, No Plating	1 15	1 40	1 75	2 35	3 25	4 35	6 85
Fig. 55 or 292, Rough Body, Union, No Plating		2 15	2 50	3 30	4 40	5 90	9 25
Fig. 54 or 291, Rough Body, Female, Plated Trimmings	1 40	1 60	2 00	2 65	3 55	4 65	7 35
Fig. 55 or 292, Rough Body, Union, Plated Trimmings		2 35	2 75	3 60	4 70	6 25	9 75
Fig. 54 or 291, Rough Body, Female, Plated All Over	1 50	1 70	2 10	2 75	3 70	4 85	7 60
Fig. 55 or 292, Rough Body, Union, Plated All Over		2 50	2 90	3 75	5 00	6 50	10 00
Fig. 54 or 291, Finished Brass, Female	2 00	2 45	2 85	3 65	4 80	6 25	9 75
Fig. 55 or 292, Finished Brass, Union		3 35	3 80	4 70	6 35	8 35	12 75
Fig. 54 or 291, Finished Brass, Female, Plated All Over	2 30	2 75	3 25	4 10	5 25	6 75	10 25
Fig. 55 or 292, Finished Brass, Union, Plated All Over		3 65	4 15	5 10	6 75	8 85	13 25
Fig. 58, Brass Key for Radiator Valves		75	75	75	1 00	1 00	1 25

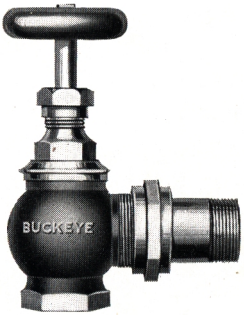
RADIATOR VALVES

JENKINS DISC

Wood Wheel or Lock Shield Construction, with or without Union.



LOCK SHIELD CONSTRUCTION
Fig. 57



WOOD WHEEL
Fig. 60

THE Buckeye Radiator Valves shown on the preceding page have a brass disc, while those shown and listed on this page are built with the special Jenkins Composition Disc. It is very simple to renew the disc when worn, making the valve practically as good as new.

The Buckeye J. D. Radiator Valve is furnished with wood wheel or lock shield construction and either model can be had with or without union. Figure numbers refer to wood wheel models and lock shield respectively.

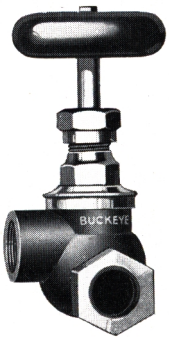
PRICE LIST

Size ..... Inches	½	¾	1	1¼	1½	2
Fig. 59 or 56, Rough Body, Female, No Plating	2 00	2 50	3 20	4 50	6 25	10 50
Fig. 60 or 57, Rough Body, Union, No Plating	2 75	3 50	4 30	5 85	7 75	12 60
Fig. 59 or 56, Rough Body, Female, Plated Trimmings	2 25	2 70	3 50	4 75	6 50	10 75
Fig. 60 or 57, Rough Body, Union, Plated Trimmings	3 00	3 75	4 65	6 25	8 00	12 90
Fig. 59 or 56, Rough Body, Female, Plated All Over	2 50	2 85	3 65	4 90	6 75	11 00
Fig. 60 or 57, Rough Body, Union, Plated All Over	3 20	3 80	4 75	6 40	8 10	13 00
Fig. 59 or 56, Finished Brass, Female	2 50	3 00	3 75	5 25	7 25	11 75
Fig. 60 or 57, Finished Brass, Union	3 20	4 00	4 80	6 40	8 75	13 85
Fig. 59 or 56, Finished Brass, Female, Plated All Over	2 85	3 10	4 00	5 40	7 75	12 00
Fig. 60 or 57, Finished Brass, Union, Plated All Over	3 25	4 25	5 25	7 00	9 25	14 25

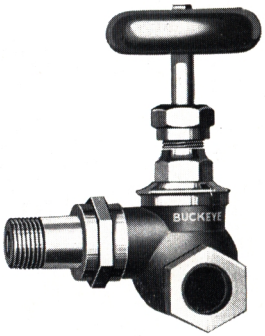
RADIATOR VALVES

CORNER VALVES

With or without Union.



FEMALE ENDS
Fig. 61



WITH UNION
Fig. 62

THE Buckeye Corner Radiator Valve is made with the special Jenkins Composition Disc in the different finishes listed below. It is furnished with female ends or with union when desired. The union tailpiece has two lugs on the inside so that a flat wrench can be inserted to tighten it to the radiator without scratching.

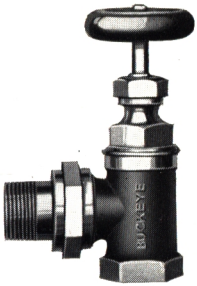
To distinguish between a right and left-hand valve, face the inlet or opening admitting the steam under the disc. If the outlet is on the right, the valve is of the right-hand pattern; if on the left, it is left-hand.

PRICE LIST

Size ..... Inches	½	¾	1	1¼	1½	2
Fig. 61, Rough Body, Female, No Plating	2 00	2 50	3 20	4 50	6 25	10 50
Fig. 62, Rough Body, Union, No Plating	2 75	3 50	4 30	5 85	7 75	12 60
Fig. 61, Rough Body, Female, Plated Trimmings	2 25	2 70	3 50	4 75	6 50	10 75
Fig. 62, Rough Body, Union, Plated Trimmings	3 00	3 75	4 60	6 25	8 00	12 90
Fig. 61, Rough Body, Female, Plated All Over	2 50	2 85	3 65	4 90	6 75	11 00
Fig. 62, Rough Body, Union, Plated All Over	3 20	3 80	4 75	6 40	8 10	13 00
Fig. 61, Finished Brass, Female	2 50	3 00	3 75	5 25	7 25	11 75
Fig. 62, Finished Brass, Union	3 20	4 00	4 80	6 40	8 75	13 85
Fig. 61, Finished Brass, Female, Plated All Over	2 85	3 10	4 00	5 40	7 75	12 00
Fig. 62, Finished Brass, Union, Plated All Over	3 25	4 50	5 25	7 00	9 25	14 25

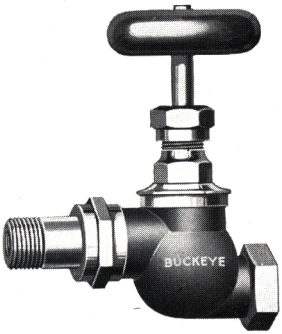
RADIATOR VALVES

CIRCULAR DISC JENKINS DISC
WITH UNION



HOT WATER VALVE
Fig. 63

ELBOW
Fig. 198



OFFSET VALVE
Fig. 64

THE Buckeye Quick-Opening Hot Water Radiator Valve is built with a circular disc. Stops are cast on the body so that a quarter turn of the hand wheel closes the opening. A small hole drilled in the disc provides for a slight circulation through the radiator.

The Buckeye Union Elbow is furnished in the same finishes as the valves and is for use particularly on hot water systems in connection with the Hot Water Radiator Valve.

The Buckeye Radiator Offset Valve is furnished regularly with the male union. Male or female ends will be supplied when ordered. The inside construction is the same as the well-known Buckeye Corner Radiator Valves, being equipped with the Jenkins Composition Disc, which is easily renewed when worn.

PRICE LIST

Size ..... Inches	¾	1	1¼	1½	2
Fig. 63, Rough Body, Union, No Plating	2 00	2 50	3 50	5 00	7 50
Fig. 63, Rough Body, Union, Plated Trimmings	2 30	2 85	3 90	5 40	8 00
Fig. 63, Rough Body, Union, Plated All Over	2 40	3 00	4 10	5 60	8 25
Fig. 63, Finished Brass, Union, Plated All Over	3 40	4 50	5 75	8 00	12 00
Fig. 64, Rough Body, Union, No Plating	3 85	4 75	6 45	8 55	13 85
Fig. 64, Rough Body, Union, Plated Trimmings	4 15	5 15	6 90	8 80	14 15
Fig. 64, Rough Body, Union, Plated All Over	4 20	5 25	7 05	8 95	14 45
Fig. 64, Finished Brass, Union, Plated All Over	4 85	6 00	7 80	9 95	15 95
Fig. 198, Rough Body, No Plating	1 25	1 60	2 10	2 85	4 50
Fig. 198, Rough Body, Plated All Over	1 50	1 85	2 40	3 15	4 80
Fig. 198, Finished Brass	1 70	2 10	2 80	3 75	5 35
Fig. 198, Finished Brass, Plated All Over	1 90	2 35	3 05	4 05	5 65

RADIATOR AIR VALVES

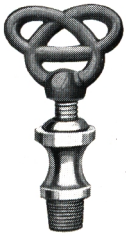


Fig. 191

Fig. 192

Fig. 194

Fig. 195

Fig. 196

THE Buckeye Radiator Air Valves are made in several different styles to meet every demand. They are furnished in ⅛" or ¼" sizes, with either brass or nickel-plated finish.

Fig. 192 is made with a wood wheel and is a particularly neat-appearing Air Valve. Figures 194 and 195 are of the lock shield construction requiring a key (Fig. 196) for operation.

These Air Valves are all carefully made and highly finished, for even on these small parts we hold strictly to our policy of producing only quality products.

PRICE LIST

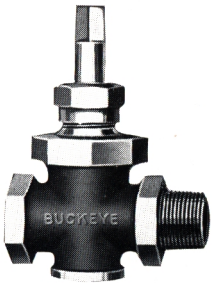
Size ..... Inches	⅛	¼
Fig. 191 Brass	0 35	0 40
Fig. 191 Plated	40	45
Fig. 192 Brass, Wood Wheel	50	55
Fig. 192 Plated, Wood Wheel	55	60
Fig. 194 Brass	40	45
Fig. 194 Plated	50	55
Fig. 195 Brass with Tip	50	55
Fig. 195 Plated with Tip	60	65
Fig. 196 Key, Brass	09	09
Fig. 196 Key, Plated	10	10

BLOW-OFF VALVES

"Y" TYPE

"Y" BLOW-OFF
Fig. 92

HORIZONTAL TYPE



HORIZONTAL BLOW-OFF
Fig. 332

THE Buckeye "Y" Blow-Off Valve is of strong, durable construction, made to withstand the severe use to which a blow-off valve is put. The straight, unrestricted passageway allows the mud, grit, scale, and dirty water to pass without difficulty. When the valve is opened, the disc is drawn back well into the top of the valve and is thus protected against wear and tear.

The Horizontal Blow-Off Valve offers an entirely different construction. A specially designed stem fits against the tapering sides of the body. A one-quarter turn of the hand wheel opens or closes the valve. The great advantage of this style valve is that there is no wearing surface on stem or seat which is exposed when the valve is opened. This insures the long life and great reliability of this style valve.

When ordered, British Standard Pipe Thread will be furnished without extra charge.

PRICE LIST

Size .....Inches	½	¾	1	1¼	1½	2	2½	3
Face to face, female screw ends, "Y" Blow-Off	.....	3 5/8	4 1/4	4 3/4	5 1/4	6 5/8	7 13/16	9 3/4
Face to face, male and female, "Y" Blow-Off	.....	4 1/4	4 13/16	5 3/8	6 13/16	7 9/16	9 3/16	10 5/8
Diameter of Hand Wheel	.....	2 5/8	3	3 7/16	3 7/8	4 5/8	6 1/2	8
Face to face, male and female, Horizontal	.....	.....	4 1/2	.....	.....	.....	.....	.....
Center of port to top of stem, Horizontal	.....	.....	4 7/8	.....	.....	.....	.....	.....
Fig. 92, Male and Female, Regular	1 75	2 75	3 25	4 00	5 75	9 00	18 50	25 00
Fig. 330, Female Ends, Regular	1 75	2 75	3 25	4 00	5 75	9 00	18 50	25 00
Fig. 331, Female Ends, Extra Heavy	2 00	3 00	4 00	5 00	7 00	10 50	21 00	30 00
Fig. 332, Horizontal Blow-Off, Male and Female	.....	.....	10 00	.....	.....	.....	.....	.....

STANDARD CHECK VALVES

SCREW ENDS

Regular Pattern for Working Pressures up to 125 lbs.
Extra Heavy Pattern for Working Pressures up to 250 lbs.

ANGLE
Regular, Fig. 82
Extra Heavy, Fig. 295

HORIZONTAL
Regular, Fig. 70
Extra Heavy, Fig. 294

VERTICAL
Regular, Fig. 81

THE pounding of a check valve is a part of its necessary action and cannot be prevented, for the disc must lift to allow a free passage and must drop to stop it. The weight of the disc and the amount of the drop in the Buckeye Standard Check Valve have been scientifically reduced to the minimum which will secure a proper volume through the seat opening without excessive noise and wear.

Sizes from ⅜" to 2" are furnished with enlarged seat opening when ordered. The diameter of the seat opening is made the same as that of the next larger size valve. The seat opening having a larger area than the diameter of the pipe, permits a greater volume with a shorter lift, minimizing the wear and practically eliminating all noise.

For general dimensions, see page 40.

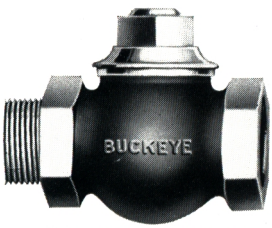
PRICE LIST

Size ..... Inches	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Fig. 70, 82, 81, Horizontal, Angle, Vertical, Rough, ...	0 65	0 65	0 70	0 90	1 15	1 60	2 25	3 15	4 75	9 00	13 00
Fig. 81, Vertical, Finished.....	75	75	90	1 30	1 75	2 40	3 50	5 00	7 80	12 50	17 50
Fig. 72, 293, Horizontal, Angle, Rough, Large Seat.....	.....	.....	90	1 15	1 60	2 25	3 20	5 20	10 00	13 00	.....
Fig. 294, 295, Horizontal, Angle, Rough, Extra Heavy.....	.....	90	1 00	1 20	1 70	2 80	3 90	5 50	8 90	16 20	24 30
Add to list for Drain Cock	.....	.....	45	45	45	50	50	50	50	50	50

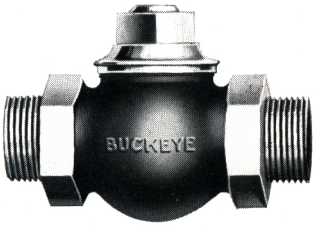
STANDARD CHECK VALVES

FLANGED MALE AND FEMALE MALE ENDS

Regular Pattern for Working Pressures up to 125 lbs.
Extra Heavy Pattern for Working Pressures up to 250 lbs.



MALE & FEMALE
Regular, Fig. 74



MALE
Regular, Fig. 80

FLANGED
Regular, Fig. 77
Extra Heavy, Fig. 297

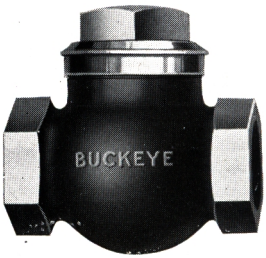
THE valves on this page have the same inside construction as those on the preceding page. In order to furnish the trade with a complete line of check valves, we make this same model in flanged ends, male and female ends, and both male ends. The wings on the upper side of the disc work against the smooth inside surface of the cap and act as guides for the disc in action. The practical design and careful workmanship are responsible for the popularity of Buckeye Check Valves.

PRICE LIST

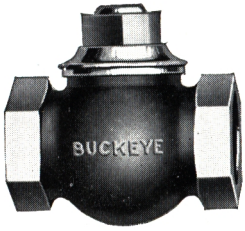
Size ..... Inches	⅜	½	¾	1	1¼	1½	2	2½	3
Fig. 77, Horz. Regular, Flanged.....									
Fig. 296, Angle, Regular, Flanged.....	1 90	3 00	4 30	5 20	7 30	9 70	13 30	18 20	25 80
Fig. 297, Horz. Extra Heavy, Flanged.....									
Fig. 298, Angle, Extra Heavy, Flanged.....	2 20	3 70	5 20	6 80	9 40	12 70	18 10	29 00	39 10
Fig. 74, Horz. Regular, Male and Female	85	1 15	1 50	1 95	3 10	4 25	6 10	.....	.....
Fig. 80, Horz. Regular, Male Ends	1 00	1 40	1 85	2 30	3 95	5 35	7 45	.....	.....
Add to list price for Drain Cock.....	45	45	45	50	50	50	50	50	50

JENKINS DISC CHECK VALVES
BALL CHECK VALVES

Regular Pattern for Working Pressures up to 125 lbs.



J. D. HORIZONTAL
Fig. 76



BALL HORIZONTAL
Fig. 301

THE Buckeye Jenkins Composition Disc Check Valves are furnished in the horizontal and angle patterns with either screwed or flanged ends. Unless otherwise ordered, a semi-hard composition disc which softens slightly under the action of hot water is furnished. For cold water, air, or gases, a slightly softer disc is supplied. When necessary to repair, valves can be made as good as new at small cost by simply removing cap and renewing disc.

The Ball Check Valve has the same neat outside appearance as the Standard Check Valve, and many prefer it for some uses because it affords an unlimited number of seating surfaces. However, it is not recommended where an absolutely air-tight check is necessary.

When ordered, British Standard Pipe Thread will be furnished without extra charge.

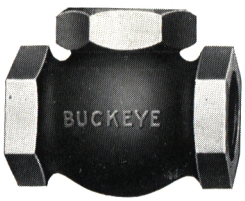
For general dimensions, see page 40.

PRICE LIST

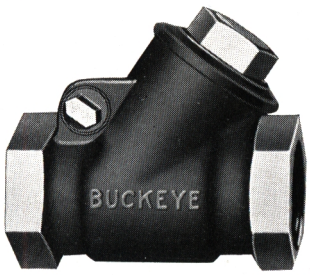
Size ..... Inches	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Fig. 76, 299, J. D. Horz. Angle, Screwed		1 10	1 20	1 30	1 90	2 60	3 60	5 00	7 50	13 50	20 50
Fig. 322, 300, J. D. Horz. Angle, Flanged				4 00	5 00	6 00	8 00	10 00	15 00	23 00	32 00
Fig. 301, 302, Ball, Horz. Angle, Screwed	0 85	95	1 10	1 60	2 30	3 10	4 00	6 20	9 40	18 00	25 00
Fig. 303, 304, Ball, Horz. Angle, Flanged				3 00	4 30	5 20	7 30	9 70	13 30	18 20	25 80
Add to list price for Drain Cock			45	45	45	50	50	50	50	50	50

REGRINDING CHECK VALVES
SWINGING CHECK VALVES

Regular Pattern for Working Pressures up to 125 lbs.
Extra Heavy Pattern for Working Pressures up to 250 lbs.



REGRINDING CHECK
Screwed
Fig. 75



SWINGING CHECK
Screwed
Fig. 79

THE Buckeye Regrinding Check Valve is constructed with a special disc on which the wings are guided by the body of the valve. If the seat wears uneven, the hexagon cap can be easily removed and a new seat ground in, in much the same manner as is done with the Buckeye Regrinding Globe and Angle Valves.

The Buckeye Swing Check Valve is of simple design, neat appearance, and is so constructed that when open the passage through the body is equal to the area of the connecting pipes. A plug inserted at the side of the body holds the disc in position. The cap is placed on the body parallel to the disc, and in order to grind in a new seat it is only necessary to remove the cap and insert a small screwdriver in the slot of the disc.

When ordered, British Standard Pipe Thread will be furnished without extra charge.

For general dimensions, see page 40.

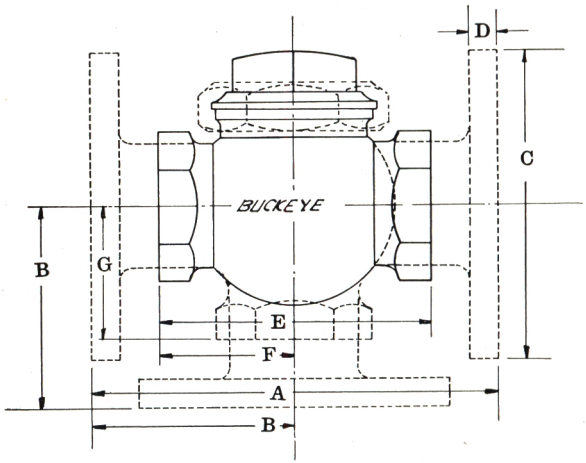
PRICE LIST

Size ..... Inches	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Fig. 75, Regr. Horz. Screwed, Fig. 305, Regr. Angle, Screwed	0 65	0 70	0 90	1 15	1 60	2 25	3 15	4 75	9 00	13 00
Fig. 306, Regr. Horz., Flanged, Fig. 307, Regr. Angle, Flanged	.....	1 90	3 00	4 30	5 20	7 30	9 70	13 30	18 20	25 80
Fig. 79, Swing Check, Screwed	1 25	1 25	1 30	1 75	2 25	3 25	4 25	6 25	11 50	16 00
Fig. 308, Swing Check, Flanged	.....	2 60	2 90	3 60	4 90	7 20	9 20	12 30	18 50	26 80
Fig. 323, Regr. Horz. Screwed, Extra Heavy	90	1 00	1 20	1 70	2 80	3 90	5 50	8 90	16 20	24 30
Fig. 324, Regr. Horz. Screwed, Large Seat	.....	.....	1 15	1 60	2 25	3 15	4 75	9 00	.....	.....

CHECK VALVES

STANDARD—JENKINS DISC—BALL—REGRINDING—SWING

Dimensions below refer to valves shown on pages 36, 37, 38, and 39.



DIMENSIONS

Size of Valves ..... Inches	¼	⅜	½	¾	1	1¼	1½	2	2½	3
A Face to face, Flange Ends, Horizontal	3	3	3½	4	4½	5	6	7¼	8	9
B Center to face of inlet, or outlet, Flange Ends, Angle	1 5/8	1 5/8	2	2¼	2 5/8	2 7/8	3 1/8	3 5/8	4¼	4½
C Diameter of Flanges	2½	2½	3	3½	4	4½	5	6	7	7½
D Thickness of Flanges	9/32	9/32	5/16	11/32	3/8	13/32	7/16	½	9/16	5/8
E Face to face, Screw End. Horizontal	1 13/16	2	2 7/16	2¾	3 5/32	3 23/32	4 3/32	4 13/16	6½	7⅞
E Face to face, Screw End, Horizontal, with Enlarged Seat	2	2 7/16	2¾	3 5/32	3 23/32	4 3/32	4 13/16	6½	.....	.....
F Center to side face, Screw End, Angle	13/16	1 1/16	1 3/16	1 13/32	1 9/16	1¾	1 15/16	2 13/32	4 1/16	3 1/16
G Center to bottom face, Screw End, Angle	1	1 3/32	1 5/16	1 17/32	1 23/32	1 15/16	2 5/32	2 11/16	4 1/16	4⅛
Face to face, Screw End, Vertical	2	2 5/16	2½	2¾	3¼	3 5/8	4¼	5¼	.....	.....
Extreme outside diameter, Vertical	1 5/8	1⅛	1 5/16	1 5/8	1 7/8	2¼	2½	3¼	.....	.....
Face to face, J. D., Screw Ends, Horizontal	2	2 3/16	2½	3	3 9/16	3 7/8	4 7/16	5 3/16	.....	.....
Center to side face outlet, J. D., Screw Ends, Angle	1	1⅛	1 9/32	1 13/32	1 13/16	1 1/8	2 1/16	2½	.....	.....
Center to bottom face inlet, J. D., Screw Ends, Angle	1	1⅛	1 11/32	1½	1 7/8	2 1/16	2 3/16	2 11/16	.....	.....
Face to face, Swing Check, Screw Ends	2 1/16	2 3/8	2 7/8	3 3/16	3 11/16	4 1/8	4 7/8	5 7/16	.....	.....
Height of Swing Check, Screw Ends	1 5/8	2 1/8	2 3/8	2 3/4	3½	4	4¾	6⅛	.....	.....
Diameter of Check Ball	⅜	½	5/8	7/8	1¼	1½	1¾	2⅜	.....	.....

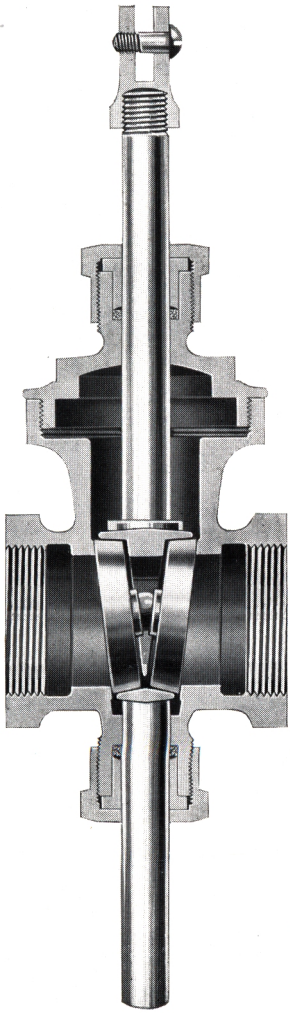
QUICK-OPENING THROTTLE VALVE

A VALVE which will open and close quickly and still afford, when closed, an absolutely tight fit, when open, an unrestricted passageway, is required as a throttle on hoist and traction engines.

The double-disc type of throttle valve as shown in the sectional view, has been found most desirable for this use. Male and female discs, made of the finest bronze, are carried in a ring which is cast as a part of the stem As the operating lever lowers the stem, the discs are carried to position where, by their ball-and-socket joint, they are wedged firmly against the tapering seats, forming an absolutely tight fit.

The body casting has thick, strong walls and will stand more pressure than the amount for which it is recommended.

The extension on the lower end of the stem serves as a guide. In addition, four wings cast on the inside of the body hold the stem and discs in perfect alignment against severe pressure, securing the accuracy of their operation. Friction is almost entirely eliminated, for the discs are not forced tight against the seats until they are directly opposite them. The result is that there is very little wear on either the discs or seat and the valve is opened and closed very easily. It is so balanced, however, that it will remain at any degree of opening desired. Both the upper and lower openings are packed with a gland. British Standard Thread will be furnished without extra charge. For principal dimensions, see page 45.



QUICK-OPENING THROTTLE VALVES

WITH OR WITHOUT LEVER

WITH LEVER
Fig. 167

WITHOUT LEVER
Fig. 165

OUR complete line of throttle valves furnishes a variety of models to supply every need. The sectional view on the preceding page shows the excellent design of the Buckeye Quick-Opening Throttle Valve. The Double Disc type of throttle valve with the ball-and-socket bearing has been found most desirable for use where a quick opening is wanted. The extension on the stem or disc holder serves as a guide and is absolute assurance against the disc being improperly seated. This type throttle valve is furnished with or without link and lever and will be supplied with drip cock when ordered. On sizes ½", ¾", and 1" of Fig. 167, wood handle is furnished regularly. This model is also furnished with union thread if desired.

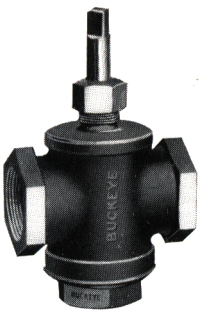
PRICE LIST

Size ..... Inches	½	¾	1	1¼	1½	2	2½	3
Fig. 165, Screw Ends				8 00	10 00	15 00	23 00	35 00
Fig. 166, Screwed and Union Thread				8 00	10 00	15 00	23 00	35 00
Fig. 167, Screwed with Link and Lever	6 00	7 00	8 50	10 00	12 50	18 00	28 00	40 00

SPECIAL THROTTLE VALVES

WITH UNION QUARTER TURN TO OPEN

UNION CONNECTIONS
Fig. 169



SCREWED
Fig. 170

WHILE the inside construction of Fig. 169 is the same as shown in the sectional view on page 41, the manner of connecting it has been altered to suit the requirements of certain engines. The body is made with a union connection on both ends. The guides on the side of the body are for the bolts which hold the connecting pipes to a tight fit. It is very simple to remove and is especially desirable from this standpoint.

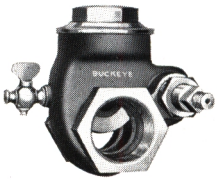
Fig. 170 is another throttle valve of special design. The body is carefully machined so that the inside wall provides a cylinder-like seating surface for a circular disc which is operated by an eccentric cast on the stem. A steel spring, fit against the eccentric, holds the disc firmly against the wall of the body. The valve is opened by a one-quarter turn of the handle and closed in the same manner.

PRICE LIST

Size ..... Inches	1¼	1½	2	2¼	2½	2¾
Fig. 169, Throttle, Union Connection	8 00	10 00	15 00	18 00	.....	25 00
Fig. 170, Throttle, One-fourth Turn to Open	8 00	10 00	15 00	.....	23 00	.....

LEVER THROTTLE VALVE

SCREW ENDS



LEVER THROTTLE
Fig. 309

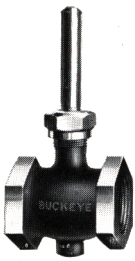
THE Lever Throttle Valve is also designed for hoist engines where a simple, reliable, and quick-opening valve is wanted. The double discs with a ball-and-socket bearing force themselves firmly against the tapering seats and form a steam-tight fit. The discs are carried by a brass stem and ring and are operated by a lever conveniently placed at the side. When the valve is wide open, there is an absolutely straight and unrestricted passage.

PRICE LIST

Size ..... Inches	1¼	1½	2	2½	3
Fig. 309, Lever Throttle, Screwed.....	3 50	5 00	7 50	13 50	19 00

BRASS BUTTERFLY VALVE

SCREW ENDS



BUTTERFLY VALVE
Fig. 99

THE Buckeye Brass Butterfly Valve is installed to regulate the flow of steam and to secure quick action in an emergency. The body is cast from the best brass to withstand the strain which may be placed on it. The stem is made of cold-rolled steel, the disc and stuffing-box of brass. The disc stands perpendicularly in the valve body and is parallel to the flow when the valve is open. By dropping the lever, this wing-like disc is closed, retarding the flow of power until the throttle valve can be operated.

The butterfly valve is not intended to be steam-tight.

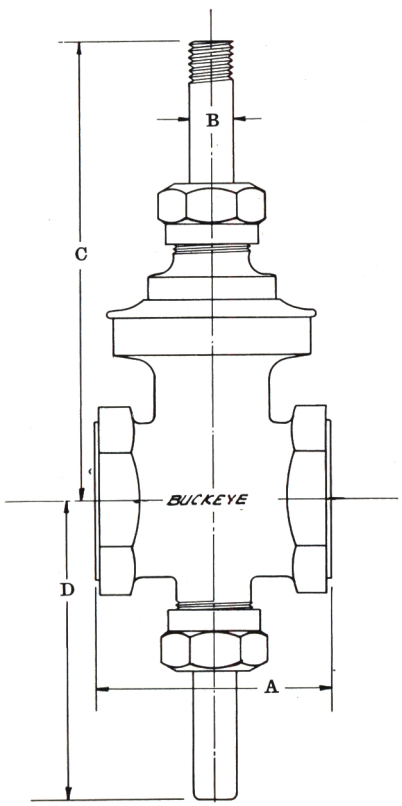
Iron Body Butterfly Valves are listed on page 138.

PRICE LIST

Size ..... Inches	¾	1	1¼	1½	2	2½	3
Fig. 99, Brass Butterfly Valve.....	3 10	4 40	5 65	6 75	10 00	13 75	21 00

QUICK-OPENING THROTTLE VALVES

Dimensions below refer to valves shown on pages 42 and 43.

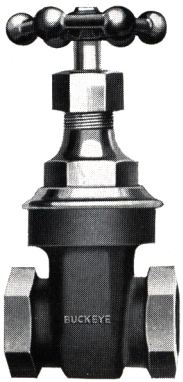


DIMENSIONS

Size of Valve ..... Inches	½	¾	1	1¼	1½	2	2½	3
A Face to face, Screw Ends	2⅜	2¾	3⅛	3½	4¼	4½	5¼	6
B Diameter of Stem	½	½	$\frac{9}{16}$	⅝	¾	¾	⅞	⅞
C Center of port to top of stem	3⅝	4⅜	5	7½	9¼	8¼	9¾	12
D Center of port to bottom of stem	2¾	3¼	4½	4¾	5	5⅞	7	8

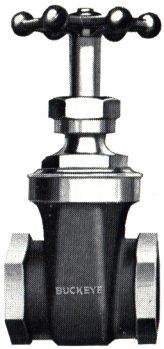
GATE VALVES

RISING STEM



RISING STEM
Fig. 53

STATIONARY STEM



STATIONARY STEM
Fig. 311

THE Buckeye Double Disc Gate Valves are made in three models: the Rising Stem model, the Stationary Stem model, and the Yoke type which is shown on the next page. The bodies of these three models are the same. The trimmings, however, are different.

The Rising Stem Model: This style valve has a thread on the stem which works in the cap or bonnet when the valve is opened or closed. A separate basket which holds the male and female discs fits on to the stem and is guided in its movement by lugs on the inside of the body. The discs, which are of practically the same design as those used on the Buckeye Quick Opening Throttle Valve, have the ball and socket bearing which insures a steam-tight fit as the discs are wedged against the tapering seats. A heavy hexagon stuffing box with the best grade of packing, fits on to the cap and prevents leakage.

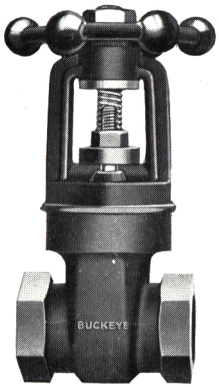
The Stationary Stem Model: This model has the advantage of requiring a very small space for operation. It has two stems, an upper hollow stem to which the hand wheel fastens and a lower movable stem which carries the discs and has an up-and-down movement within the hollow stem by the functioning of a double left-hand thread. The discs are the same style as those used on the other Buckeye Gate Valves, having the ball and socket joint which insures a proper seating of the discs in the tapering seats.

PRICE LIST

Size ..... Inches	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Fig. 53, Rising Stem, Screwed	1 00	1 25	1 50	1 75	2 50	3 50	5 00	7 50	14 00	19 50
Fig. 310, Rising Stem, Flanged	.....	.....	3 00	4 00	5 25	7 75	10 50	14 00	21 00	32 00
Fig. 311, Stationary Stem, Screwed ..	.....	.....	1 80	2 30	3 00	4 20	6 00	9 00	17 00	24 00
Fig. 312, Stationary Stem, Flanged ..	.....	.....	3 70	4 60	5 90	8 10	11 00	16 00	27 00	35 00

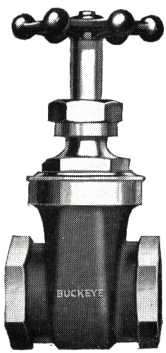
GATE VALVES

DOUBLE DISC YOKE TYPE



YOKE TYPE
Fig. 313

WEDGE TYPE



WEDGE TYPE
Fig. 315

THE Yoke Type Model: This style of gate valve is for use on lines where extra heavy pressure is used. It conforms to the requirements of the boiler inspection laws of the different states which specify that all stop valves used on steam connections between water column and boiler shall be straightway pattern of the outside screw and yoke type. The stem operates through a bushing at the top of the yoke, and as the stem threads do not come in contact with the steam they are not subjected to any corrosive action. A liberal recess in the lower part of the yoke contains the packing which prevents leakage about the stem. This valve can be repacked under pressure by opening the valve to the limit.

The Wedge Disc Model: Simple, compact, and well proportioned, characterize the Buckeye Wedge Type Gate Valve. Like the other Buckeye Gate Valves, it has a free and unrestricted passageway when opened. It is for use with steam, water, oil, air, or gas. The hollow brass wedge-shaped disc has two seating surfaces which are accurately machined to the same taper as the seats. At the turn of the hand wheel, the disc, guided by lugs on the side of the body, is moved up and down on the stem. As the stem is of the non-rising type, this style of valve is particularly desirable for use where the space for its installation is limited.

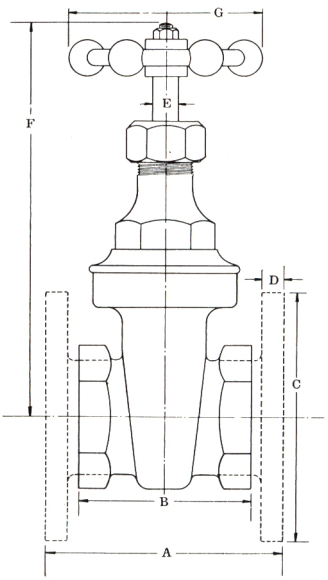
PRICE LIST

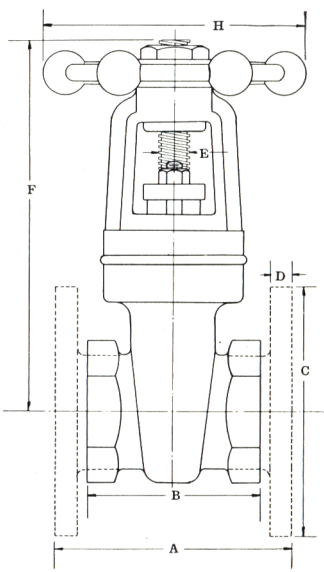
Size ..... Inches	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Fig. 313, Yoke Type, Screwed	.....	.....	.....	3 50	5 50	6 30	9 00	14 00	21 00	31 00
Fig. 314, Yoke Type, Flanged	.....	.....	.....	5 70	7 30	10 00	13 00	20 00	27 00	39 00
Fig. 315, Wedge Disc Type, Screwed Ends	.....	.....	1 80	2 30	3 00	4 20	6 00	9 00	17 00	24 00
Fig. 316, Wedge Disc Type, Flanged	.....	.....	3 70	4 60	5 90	8 10	11 00	16 00	27 00	35 00

GATE VALVE

RISING STEM STATIONARY STEM YOKE TYPE

Dimensions below refer to valves shown on pages 46 and 47.





DIMENSIONS

Size of Valve ..... Inches	½	¾	1	1¼	1½	2	2½	3
A Face to face, Flange Ends	3	3½	3¾	4¼	4¾	5½	6½	.....
B Face to face, Screw Ends, Rising and Yoke	2 7/16	2¾	3⅛	3⅜	3½	3⅞	5½	.....
B Face to face, Screw Ends, Stationary	2 7/16	2¾	3⅛	3⅜	4¼	4½	5¼	6
C Diameter of Flanges	3	3½	4	4½	5	6	7	.....
D Thickness of Flanges	5/16	11/32	⅜	13/32	7/16	½	9/16	.....
E Diameter of Stem — Stationary	9/16	21/32	21/32	¾	⅞	1	1 3/16	1 3/16
E Diameter of Stem — Rising	⅜	7/16	½	½	39/64	39/64	23/32	.....
E Diameter of Stem — Yoke Type	.....	7/16	½	9/16	⅝	11/16	13/16	.....
F Center of port to top of stem — Stationary	4⅜	5⅜	6	6⅞	7½	9	10½	12
F Center of port to top of stem — Rising	4⅝	5¼	6	6¾	7⅞	9¼	11	.....
F Center of port to top of stem — Yoke Type	.....	5⅛	5⅞	6¾	7½	8⅝	10⅛	.....
G Diameter of Hand Wheel, Rising and Stationary	2 5/16	2⅝	3 1/16	3⅜	3⅞	4½	6½	8
H Diameter of Hand Wheel, Yoke Type	.....	3⅜	3⅞	4 9/16	5¼	5¼	6½	.....

SAFETY VALVES

BALL WEIGHT OR LEVER AND WEIGHT

BALL WEIGHT
Fig. 94

LEVER AND WEIGHT
Fig. 96

THE Buckeye Safety Valve with Ball Weight (Fig. 94) is made for working pressures as specified on order, the weight of the ball being changed to meet requirements. It is furnished with either cross or angle body, screwed or flanged, the same body being used as is supplied on the Buckeye Standard Valves shown on pages 13, 14, and 15. Its simple construction with only four parts—body, cap, stem, and weight—insures its reliability. Cross safety valves may be used with the bottom and one side as inlets and the remaining side as the outlet. It is compact, requiring very little space for installation.

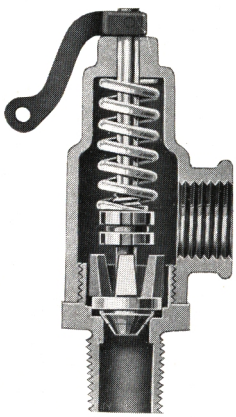
The Buckeye Safety Valve with Lever and Ball Weight (Fig. 96) is very much the same in principle as Fig. 94. It has the same body with the same brass stem, disc, and seat. With the lever, however, it has the additional feature of adjustment so it can be set to blow off at any working pressure from 40 to 100 pounds. This model will also be furnished for higher pressures when ordered. The fulcrum which carries the lever is movable and can be placed in any desired position.

PRICE LIST

Size .....Inches	½	¾	1	1¼	1½	2	2½	3
Fig. 317, Ball Weight, Angle, Screwed	2 25	2 60	3 30	4 50	6 35	8 65	.....	.....
Fig. 94, Ball Weight, Cross, Screwed	2 75	3 50	5 00	7 00	8 50	12 00	.....	.....
Fig. 318, Lever and Weight, Angle, Screwed..	3 25	3 90	4 70	7 15	9 00	12 50	22 50	33 50
Fig. 319, Lever and Weight, Angle, Flanged..	7 00	8 90	11 20	15 50	19 75	26 50	39 50	54 50
Fig. 96, Lever and Weight, Cross, Screwed..	3 25	3 90	4 70	7 15	9 00	12 50	22 50	33 50
Fig. 97, Lever and Weight, Cross, Flanged..	7 00	8 90	11 20	15 50	19 75	26 50	39 50	54 50

RELIEF VALVE

THE sectional view shows the inside construction of the Valve. The body is a small, neat-appearing casting of simple design. The Valve is attached to the pipe line by the base, which also screws into the Valve body and provides a seat for the disc. Two different styles of discs are offered. The one disc has three wings below its seating surface which work against the smooth machined sides of the base as the disc is moved up and down. In the other model, the disc is cast with the three wings above the seating surface. A deeper recess is machined into the base, the seat thus being lowered, the upper walls of the base provide a guide for the wings of the disc.



The lower end of the stem rests on the disc; the upper end extends through the top of the body. The adjustment of the valve is secured by placing the adjusting lock nuts on the stem so that the contracted spring will resist a certain pressure. When the pressure in the tank exceeds the pressure for which the valve is adjusted (usually 60 or 75 pounds), the disc is forced upward, water passes out through the opening at the side on the valve, and the pressure in the tank is relieved. Either a cap or lever is furnished at the top of the valve.

The exclusive features of the Buckeye Water Relief Valve are what make it so much more desirable than any other make. On the ordinary relief valve, the adjusting nuts are at the top of the body in too accesssible a position for such a delicate adjustment. On the Buckeye Water Relief Valve they are on the stem inside the body where they will not be brushed against and disturbed. Readjustment, however, can be made by inserting a screwdriver through the valve outlet and moving the lock nuts up or down as may be required. About once a month the relief valve should be opened to remove all sediment from the water tank. On all other water relief valves, it is necessary to disturb the adjustment to accomplish this. On the Buckeye Water Relief Valve, it is merely necessary to pull up on the lever or unscrew the cap, as the case may be, to relieve the pressure.

Patents are pending on its design.

RELIEF VALVE

WITH LEVER
Fig. 320

WITH CAP
Fig. 321

PUMP manufacturers have realized the great advantage of the Buckeye Water Relief Valve, and it is now supplied on a large majority of the electric pumps installed in farm homes.

Generally, the pipe line connecting the pump with the water tank is equipped with the Buckeye J. D. Check Valve, which prevents a back-pressure from the tank doing injury to the pump and motor. The Buckeye Water Relief Valve is installed between the check valve and the tank. Should the pressure in the tank get beyond a certain point, say 60 pounds, the relief valve is forced open and allows a discharge of water until the pressure in the tank returns to normal. The valve then automatically closes.

Should the pump be turned on when the stop valve is closed, the relief valve furnishes a means of escape for the water and thus protects the pump and motor from possible danger. It will readily be seen that the double service and protection which the Buckeye Water Relief Valve gives, not only to the tank but to the pump and motor as well, is of inestimable value.

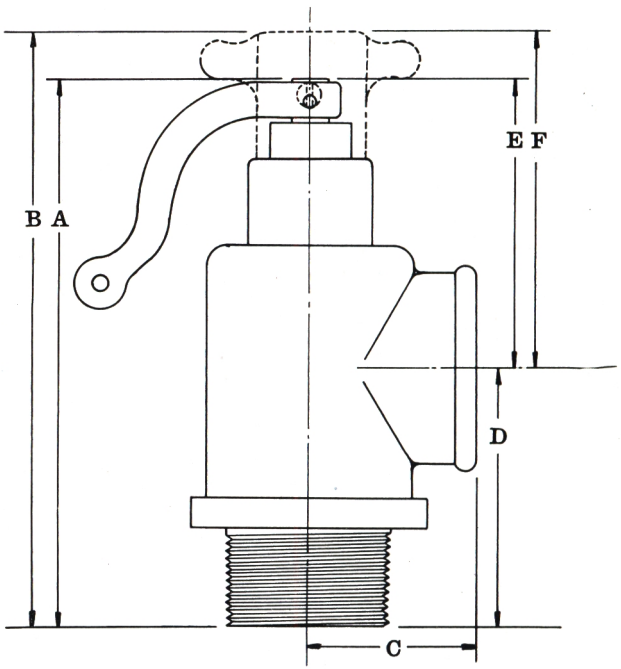
PRICE LIST

Size ..... Inches	⅜	½	¾	1
Fig. 320, Relief Valve with Lever	3 40	3 60	5 00	7 00
Fig. 321, Relief Valve with Cap	3 80	4 00	5 50	8 00

WATER RELIEF VALVE

WITH LEVER OR CAP

Dimensions below refer to valves shown on page 51.



DIMENSIONS

Size of Valve ..... Inches	½	¾	1	1¼	1½
A Height of Valve with Lever	4	4¾	5⅜	6	6⅜
B Height of Valve with Cap	4½	5¼	5¾	6¾	7¼
C Center of inlet to end of side outlet	1 1/16	1¼	1½	1 11/16	1 15/16
D Center of outlet to end on male inlet	1¾	2	2⅜	2¾	3
E Center of outlet to top of valve, Lever	2¼	2¾	3	3¼	3⅜
F Center of outlet to top of valve, Cap	2¾	3¼	3⅜	4	4¼

RELIEF VALVE

RELIEF VALVE
Fig. 326

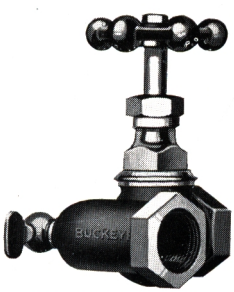
THE Buckeye Relief Valve is simple in design, strong and durable in construction. There are four holes in the side of the body to permit the escape of steam or air when the valve acts. The spring which rides on the disc, is compressed against the cap which screws into the body. Adjustment is secured by the cap hexagon locknut.

PRICE LIST

Size	½	¾	1	1¼	1½	2	2½	3
Fig. 326, Screwed Ends	2 00	2 50	3 30	4 20	5 50	7 50	11 00	15 00
Fig. 327, Flanged Ends	3 00	4 00	5 50	7 50	10 00	14 00	20 00	30 00

BRASS CORNER VALVE

THE Buckeye Brass Corner Valve is used as a stop valve where special construction makes such a valve more convenient than a regular globe or angle. The stem and disc and other trimmings are the same as used on the regular valves.



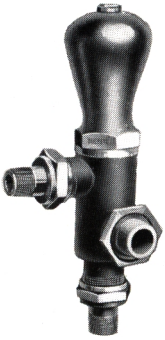
CORNER VALVE
Fig. 329

PRICE LIST

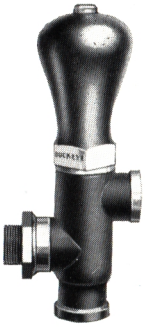
Size	Inches	½	¾	1
Fig. 329, Corner Valve		1 50	2 00	2 80

CROSSHEAD PUMP VALVES

WITH UNION CONNECTIONS WITHOUT UNION CONNECTIONS



WITH UNION CONNECTIONS
Fig. 171



WITHOUT UNION CONNECTIONS
Fig. 172

THE Buckeye Crosshead Pump Valve is for use on traction engines, and functions in connection with the crosshead suction pump to carry water to the boiler. The suction pump attaches at the lower opening on the side. Two discs, one above the other, operate within the valve and form two separate chambers in the valve body.

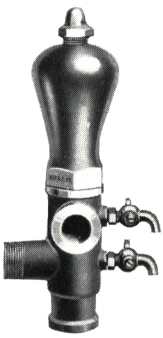
In operation, the piston of the pump moves back. The lower disc is lifted from its seat and water is sucked into the lower chamber through the inlet at the bottom while the upper disc is held against its seat by the suction. As the piston of the pump reverses its action and moves forward, the lower disc is forced against its seat, the upper disc is lifted and the water is pressed into the upper chamber and through the outlet into the boiler.

PRICE LIST

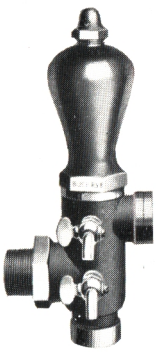
Size ..... Inches	¾x¾	¾x1	1x1	1x1¼
Fig. 171, With Air Chamber, Union Connection	12 00	14 00	16 00	20 00
Fig. 172, With Air Chamber, No Union Connection	8 00	9 00	10 50	14 00

CROSSHEAD PUMP VALVES

WITH RELIEF CAPS AND DRIP COCKS



LEFT HAND
With Relief Cap and
Drip Cock
Fig. 173



RIGHT HAND
With Relief Cap and
Drip Cock
Fig. 175

RIGHT HAND
With Relief Cap and
Drip Cock
Fig. 174

THE valves shown here have practically the same construction as those listed on the preceding page. These valves are supplied with or without relief valve on the air chamber. They will also be furnished with drain cocks in the body. These various models give a large choice so that practically any demand of a special nature can be taken care of.

The large brass air chamber which screws into the top of the body prevents the disc from hammering against the seats and causing undue wear.

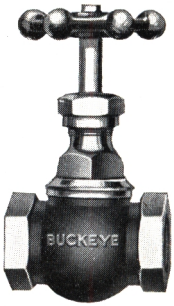
PRICE LIST

Size ..... Inches	¾x¾	¾x1	1x1	1x1¼
Fig. 173, Left Hand, with Relief Cap, less Drip Cocks	8 00	9 00	10 50	14 00
Fig. 173, Left Hand, with Relief Cap, with Drip Cocks	10 00	11 00	13 00	17 00
Fig. 174, Right Hand, with Relief Cap, less Drip Cocks	8 00	9 00	10 50	14 00
Fig. 174, Right Hand, with Relief Cap, with Drip Cocks	10 00	11 00	13 00	17 00
Fig. 175, Left Hand, with Relief Cap, less Drip Cocks	8 00	9 00	10 50	14 00
Fig. 175, Right Hand, with Relief Cap, with Drip Cocks	10 00	11 00	13 00	17 00

NEEDLE VALVES

BRASS OR STEEL STEMS SCREW ENDS

ANGLE
Fig. 334



GLOBE
Fig. 68

CROSS
Fig. 336

THE Buckeye Needle Valve is used for the control of gas, gasoline, oil, and air where a very close and delicate adjustment is desired. The body is the same as used on the Buckeye Standard Valves. The valve seat, however, is machined to a size as ordered. A large opening is desired for some uses, while a small opening is necessary for others. Either brass or steel stem will be furnished and order should specify which is desired. Seat openings will have sizes as listed on opposite page unless otherwise specified on order.

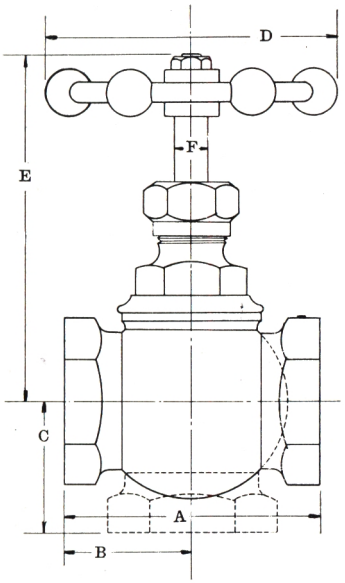
PRICE LIST

Size ..... Inches	⅛	¼	⅜	½	¾
Fig. 68, Globe, Screwed	0 60	0 70	0 80	1 45	1 85
Fig. 333, Globe, with Union	75	95	1 15	1 95	2 50
Fig. 334, Angle, Screwed	60	70	80	1 45	1 85
Fig. 69, Angle, with Union	75	95	1 15	1 95	2 50
Fig. 336, Cross, Screwed	90	1 20	1 45	2 25	2 80
Fig. 337, Cross, with Union	1 05	1 55	1 75	2 55	3 45

BRASS NEEDLE VALVES

GLOBE, ANGLE, AND CROSS

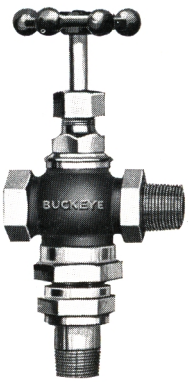
Dimensions below refer to valves shown on page 56.



DIMENSIONS

Size of Valve ..... Inches	1/8	1/4	3/8	1/2	3/4
A Face to face, Screw Ends, Globe	1 9/16	1 13/16	2	2 7/16	2 23/32
B Center to side face, Screw End, Angle and Cross	3/4	13/16	1 1/16	1 1/16	1 13/32
C Center to bottom face, Screw End, Angle and Cross	3/4	1	1 3/32	1 9/32	1 17/32
D Diameter of Hand Wheel	1 5/8	1 5/8	2	2 5/16	2 5/8
E Center of port to top of stem	2 1/16	3	3 3/16	3 5/8	4
F Diameter of stem	1/4	1/4	3/8	3/8	3/8
Seat Opening in Valves with Steel Stems	3/64	1/16	3/32	1/8	3/16
Seat Opening in Valves with Brass Stems	1/8	3/16	1/4	5/16	7/16

DOUBLE-SEATED CROSS VALVES



MALE AND FEMALE
Male Union
Fig. 51

BOTH MALE ENDS
Male Union
Fig. 340

THE Buckeye Double Seated Cross Valves are specially designed, are made to order only, and are not carried in stock. They will be supplied with either male, female, or male and female openings. The bodies are strongly built with wall of uniform thickness to care for all strains.

The stem carries two discs. When the hand wheel is turned down, the lower disc is seated in the bottom connection. When the hand wheel is turned up as far as it will go, the top disc is brought against the seat on the bottom of the diaphragm.

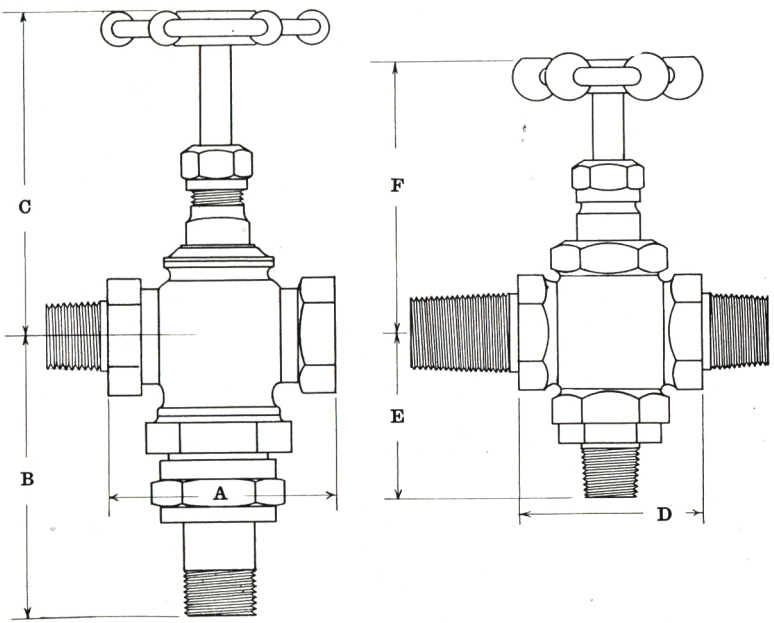
Fig. 51 is furnished with a union. It has a square cap and a heavy stuffing-box. Fig. 340 is made with a special stem, the stem and discs being made in one solid casting. It is made with a specially designed cap, is packed with a gland, and carries a heavy stuffing-box.

PRICE LIST

Size ..... Inches	½	¾	1	1¼	1½	2
Fig. 51, Male and Female, Male Union	6 00	7 50	10 00	.....	.....	.....
Fig. 338, Female, Female Union	3 50	4 50	6 00	.....	.....	.....
Fig. 340, Male Ends, Male Union	.....	9 00	12 00	15 00	19 00	23 00

DOUBLE SEATED CROSS VALVES

Dimensions refer to valves shown on page 58.



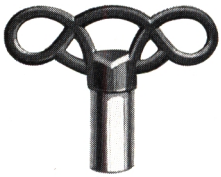
DIMENSIONS

Size of Valve ..... Inches	½	¾	1	1¼	1½	2
A Fig. 51, Face to face	2 11/16	3⅛	3¾	.....	.....	.....
B Center of port to end of union	3½	4	4½	.....	.....	.....
C Center of port to top of hand wheel	3¾	4¾	5	.....	.....	.....
D Fig. 340, Face to face	.....	2½	3¼	3½	4	5
E Center of port to end of plug	.....	2⅜	2¾	3⅛	3¼	4
F Center of port to top of hand wheel	.....	3½	4½	5	5½	5⅞

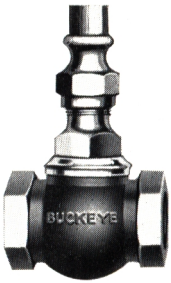
NATURAL GAS VALVES

LOCK SHIELD CONSTRUCTION

ANGLE
Lock Shield Construction
Fig. 66



KEY
Fig. 67



GLOBE
Lock Shield Construction
Fig. 65

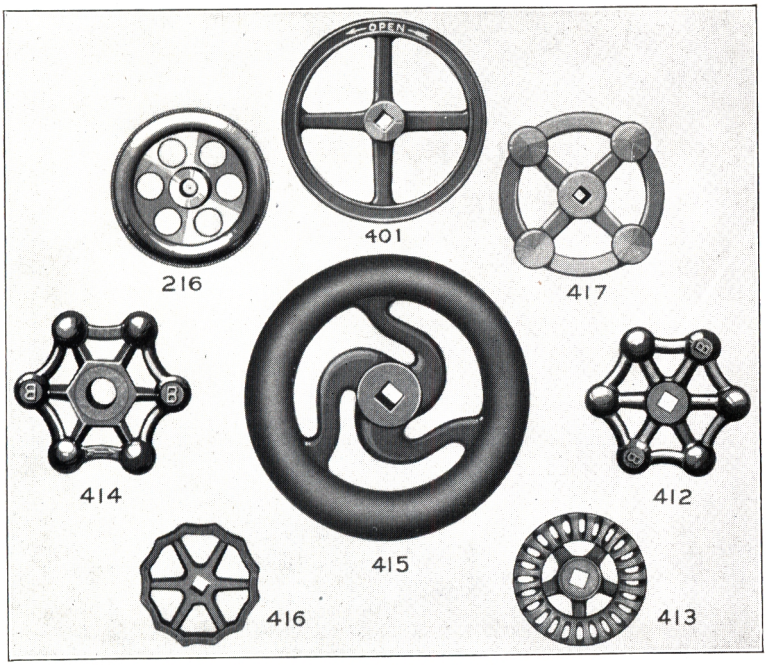
THE Buckeye Natural Gas Valve is for use on gas lines where a reliable stop or control is necessary. It is extremely important that all connections be air-tight on a gas line. To this end, most connections are solder joints. In some places, however, it is advisable to use the Buckeye Brass Valve with the lock shield construction. The lock shield construction prevents tampering with adjustment. The brass stem and disc are ground to a perfect fit and tested under pressure to insure absolute safety. The body is the same as used on the Buckeye Standard Valves. For dimensions, see page 18.

One key will be furnished and charged for with each lot of a size. If a quantity of lock shield valves is ordered and additional keys are wanted, order should specify number desired.

PRICE LIST

Size ..... Inches	¼	⅜	½	¾
Fig. 65, Globe	0 90	1 10	1 35	1 60
Fig. 66, Angle	90	1 10	1 35	1 60
Fig. 67, Valve Key	18	18	18	25

WHEELS FOR VALVES



PRICE LIST

Size of Valve..... Inches	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Fig. 412, Malleable Iron Wheel....Size	1½	1½	2	2¼	2½	3	3¼	3½	4¼	.....	.....
Fig. 412, Malleable Iron Wheel..Price	0 05	0 05	0 07	0 10	0 15	0 20	0 25	0 35	0 45	.....	.....
Fig. 413, Non-heating Iron Wheel, Sz.	.....	.....	.....	2¼	2¼	.....	.....	.....	.....	.....	.....
Fig. 413, Non-heating Iron Wheel, Pr.	.....	.....	.....	10	10	.....	.....	.....	.....	.....	.....
Fig. 414, Gate Valve Wheel .....Size	.....	.....	.....	.....	3	3½	4¼	.....	.....	.....	.....
Fig. 414, Gate Valve Wheel.....Price	.....	.....	.....	.....	20	25	35	.....	.....	.....	.....
Fig. 415, Round Iron Wheel.....Size	.....	.....	.....	.....	.....	.....	.....	.....	.....	6½	7¾
Fig. 415, Round Iron Wheel.....Price	.....	.....	.....	.....	.....	.....	.....	.....	.....	60	75
Fig. 416, Special Iron Wheel.....Size	.....	.....	.....	2	2¼	.....	.....	.....	.....	.....	.....
Fig. 416, Special Iron Wheel.....Price	.....	.....	.....	10	15	.....	.....	.....	.....	.....	.....
Fig. 216, Brass Wheel .....Size	1¾	1¾	1¾	2	2¼	3	.....	.....	.....	.....	.....
Fig. 216, Brass Wheel, Finished....Pr.	25	25	40	50	60	75	.....	.....	.....	.....	.....
Fig. 401, Round Govt. Wheel.....Size	.....	.....	3	3	4	5	6	6	7	.....	.....
Fig. 401, Round Govt. Wheel.....Price	.....	.....	90	90	1 50	2 25	3 50	3 50	5 00	.....	.....
Fig. 417, Govt. Brass Wheel.....Size	2	2	2	2	3	3	4	4	5	.....	.....
Fig. 417, Govt. Brass Wheel .....Price	50	50	50	60	90	90	1 50	1 50	2 25	.....	.....
Fig. 328, Wood Wheel.....Size	1	1	1¾	1¾	2½	2¾	3	3	3	.....	.....
Fig. 328, Wood Wheel.....Price	10	10	15	15	20	25	30	30	30	.....	.....

STANDARD TEMPLATE

Flange dimensions for brass valves and flanges.
For drilling Regular and Extra Heavy Brass Flanges.

THE dimensions listed below are standard for brass valves and flanges. All brass valves ordered from this catalog with flanged ends will be furnished with flanges of the same diameter and thickness as shown below. When drilling is ordered, bolt circle, number and dimensions of bolts will be the same as indicated below unless otherwise specified.

TEMPLATE FOR STANDARD BRASS VALVES AND FITTINGS For Working Pressures up to 125 lbs.						TEMPLATE FOR EXTRA HEAVY BRASS VALVES AND FITTINGS For Working Pressures up to 250 lbs.					
Size Valve, Inches	Diameter of Flanges	Thickness of Flanges	Bolt Circle	Number of Holes	Diameter of Bolts	Size Valve, Inches	Diameter of Flanges	Thickness of Flanges	Bolt Circle	Number of Holes	Diameter of Bolts
3/8	2 1/2	9/32	1 11/16	4	3/8	3/8	3	3/8	2	4	7/16
1/2	3	5/16	2 1/8	4	3/8	1/2	3 1/2	13/32	2 3/8	4	7/16
3/4	3 1/2	11/32	2 1/2	4	3/8	3/4	4	7/16	2 7/8	4	1/2
1	4	3/8	3	4	7/16	1	4 1/2	1/2	3 1/4	4	1/2
1 1/4	4 1/2	11/32	3 3/8	4	7/16	1 1/4	5	17/32	3 3/4	4	1/2
1 1/2	5	7/16	3 7/8	4	1/2	1 1/2	6	9/16	4 1/2	4	5/8
2	6	1/2	4 3/4	4	5/8	2	6 1/2	5/8	5	4	5/8
2 1/2	7	9/16	5 1/2	4	5/8	2 1/2	7 1/2	11/16	5 7/8	4	3/4
3	7 1/2	5/8	6	4	5/8	3	8 1/4	3/4	6 5/8	8	3/4
3 1/2	8 1/2	11/16	7	4	5/8	3 1/2	9	13/16	7 1/4	8	3/4
4	9	11/16	7 1/2	8	3/4	4	10	7/8	7 7/8	8	3/4

WHISTLES AND BRASS COCKS

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ALL-BRASS WHISTLES

OUR complete line of Plain and Chime Whistles is the result of experiments which we have made over a period of many years. By carefully selecting the points of refinement, we have been able to bring the Buckeye Whistles to the highest plane of efficiency, and we claim without fear of contradiction, that the Buckeye Whistle will produce a greater volume of sound on a less expenditure of steam than any other make of whistle on the market.

As the lever is pulled, the disc moves from its seat and the steam rushes to the upper part of the valve where it is discharged through the opening in the base disc, striking the edge of the bell with the same pressure at all points, giving a clear, even tone. The size of the opening through which the steam is discharged against the bell is graduated according to the size of the bell in order to produce the maximum volume of sound on the minimum expenditure of steam.

The bell on the plain whistle can be adjusted at the proper distance from the base to suit the steam pressure. Adjustment is secured by loosening the acorn lock nut at the top of the bell and screwing the bell up or down on the stem. For high pressure, screw the bell up; for lower pressure, screw the bell down. Then tighten the locknut to secure the adjustment.

When cities or towns wish to purchase a large whistle for fire or other signal to be heard at some distance, we prefer to be advised as to lowest pressure at which whistle is to be blown, the largest size pipe connection available, and a description of the conditions under which installation will be made. We shall then be able to advise the proper size whistle to use in order to secure the maximum efficiency.

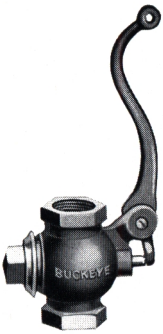
In making installation, a stop valve should be placed at the bottom of the connecting pipe with a drip cock directly above it to provide a means of draining any water which may condense in the pipe.

ALL-BRASS WHISTLES

PLAIN OR CHIME DOME-SHAPED BELL

ALL-BRASS WHISTLE VALVE

PLAIN
Fig. 341



VALVE
Fig. 114

CHIME
Fig. 342

THE construction of this whistle differs from the other Buckeye whistles not only in the shape of the bell but in the design of the valve as well. In this model the disc at the top of the base can be removed so that any deposits of scale, grease, or dirt can easily be cleaned out. This is a distinct advantage.

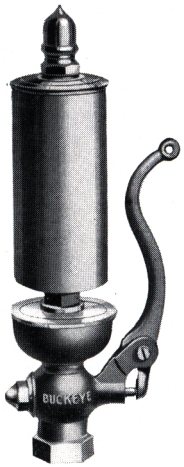
The Buckeye Whistle Valve (Fig. 114) has the same inside construction as the valves on the base of the whistles.

PRICE LIST

Diameter of Bell	Inches	1	1¼	1½	2	2½	3	3½
Length of Bell	Inches	2	2¾	3⅛	4¾	5½	6¼	7¼
Size of Pipe	Inches	⅜	⅜	⅜ OR ½	½ OR ¾	¾ OR 1	¾ OR 1	1
Fig. 341, Plain, Dome Whistle		3 40	4 25	4 50	6 00	7 25	9 25	12 25
Diameter of Bell	Inches	4	5	6	7	8	10	12
Length of Bell	Inches	8¼	10¾	12½	14¼	16½	20	24
Size of Pipe	Inches	1	1¼	1½	2	2	2½	3
Fig. 341, Plain, Dome Whistle		16 00	23 75	34 50	67 50	100 00	.....	.....
Diameter of Bell	Inches	.....	.....	1½	2	2½	3	3½
Length of Bell	Inches	.....	.....	4	5	6⅛	7¾	9
Size of Pipe	Inches	.....	.....	⅜ OR ½	½ OR ¾	¾ OR 1	¾ OR 1	1
Fig. 342, Chime, Dome Whistle		.....	.....	5 00	7 00	9 00	11 00	14 00
Diameter of Bell	Inches	4	5	6	.....	8	10	12
Length of Bell	Inches	10¼	12½	15	.....	20	.....	.....
Size of Pipe	Inches	1	1¼	1½	.....	2	2½	3
Fig. 342, Chime, Dome Whistle		18 00	28 00	38 00	.....	90 00	140 00	200 00
Size	Inches	½	¾	1	1¼	1½	2	2½	3
Fig. 114, Whistle Valve		2 50	3 00	3 50	5 00	6 00	9 00	18 00	27 00

ALL BRASS PLAIN WHISTLES

SCREW ENDS



WITH VALVE
Fig. 109

WITHOUT VALVE
Fig. 111

THE Buckeye Plain Brass Whistle is furnished with or without a valve in the base. Otherwise the construction of these two valves is the same. The stem is securely screwed into the base and supports the bell which can be screwed up or down for adjustment.

If the whistle is to be installed at some distance from the source of the steam so that a direct connection to the operating lever is impossible, it is advisable to use a whistle without a valve. A separate whistle valve then (Fig. 114) should be placed in the boiler room where it is accessible.

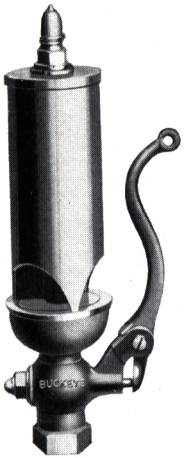
An iron base without valve can be furnished if desired. Prices will be quoted on application.

PRICE LIST

Diameter of Bell.....Inches	1	1¼	1½	2	2½	3
Length of Bell.....Inches	2	2¾	3⅛	4¾	5½	6¼
Size of Pipe.....Inches	⅜	⅜	⅜ OR ½	½ OR ¾	¾ OR 1	¾ OR 1
Fig. 109, Plain Whistle with Valve.....	3 40	4 25	4 50	6 00	7 25	9 25
Fig. 111, Plain Whistle, without Valve.....	2 20	2 75	3 00	4 35	5 25	7 25
Diameter of Bell.....Inches	3½	4	5	6	7	8
Length of Bell.....Inches	7¼	8¼	10¾	12½	14¼	16½
Size of Pipe.....Inches	1	1	1¼	1½	2	2
Fig. 109, Plain Whistle with Valve.....	12 25	16 00	23 75	34 50	67 50	100 00
Fig. 111, Plain Whistle, without Valve.....	9 50	12 50	19 00	24 50	50 00	70 00

ALL BRASS CHIME WHISTLES

SCREW ENDS



WITH VALVE
Fig. 110

WITHOUT VALVE
Fig. 112

THE Buckeye Chime Whistles are also furnished with or without a valve. The bell is cast in one piece so that there is no possibility of the parts wearing loose and making an undesirable noise when the valve is operated. The clear and harmonious quality of the tone is very pleasing to the ear.

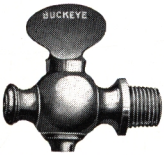
The size of the whistle is known by the diameter of the bell and not by the size of the pipe connection. Orders should be made out accordingly. If larger pipe connections than standard are wanted, order should specify size desired. No extra charge is made for enlarged openings.

An iron base without valve can be furnished if desired. Prices will be quoted on application.

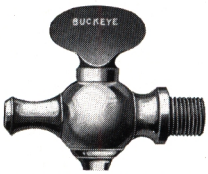
PRICE LIST

Diameter of Bell	Inches	1½	2	2½	3	3½	4
Length of Bell	Inches	4	5	6⅛	7¾	9	10¼
Size of Pipe	Inches	⅜ OR ½	½ OR ¾	¾ OR 1	¾ OR 1	1	1
Fig. 110, Chime Whistle, with Valve, Lever		5 00	7 00	9 00	11 00	14 00	18 00
Fig. 112, Chime Whistle, without Valve, no Lever		3 50	5 00	6 50	8 00	11 00	14 00
Diameter of Bell	Inches	5	6	8	10	12	
Length of Bell	Inches	12½	15	20	.....	.....	
Size of Pipe	Inches	1¼	1½	2	2½	3	
Fig. 110, Chime Whistle, with Valve, Lever		28 00	38 00	90 00	140 00	200 00	
Fig. 112, Chime Whistle, without Valve, No Lever		22 00	30 00	70 00	110 00	150 00	

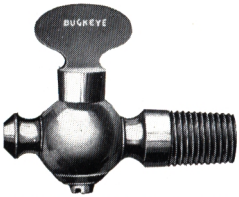
BRASS AIR COCKS



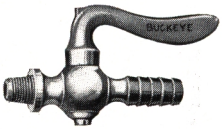
TEE HANDLE, Fig. 126



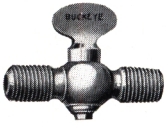
TEE HANDLE, Fig. 127
LEVER HANDLE, Fig. 132



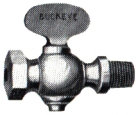
TEE HANDLE, Fig. 128
LEVER HANDLE, Fig. 343



LEVER HANDLE, Fig. 134
TEE HANDLE, Fig. 344



TEE HANDLE, Fig. 135
LEVER HANDLE, Fig. 136



TEE HANDLE, Fig. 137
LEVER HANDLE, Fig. 345

THE Buckeye Brass Air Cocks are cast from the very best alloy of red brass and machined to suit the particular user. The key is set to a perfect fit so that, while working easily, the joint is absolutely tight and will not leak.

Either Tee or Lever Handles will be furnished with any of the models shown.

Fig. 126 is also furnished with spring key which affords an easy means of adjustment. It is made with either round or hex shoulder.

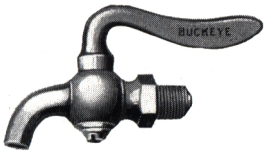
Sizes ⅜" and ½" of Fig. 127 and Fig. 132 are made with hex shoulder.

British Standard Pipe Thread will be furnished when ordered without extra charge.

PRICE LIST

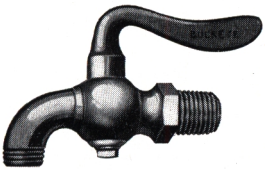
Number	00	0	1	2	3
Size	⅛	⅛	¼	⅜	½
Fig. 126, Tee, without Spring Key	0 40				
Fig. 126, Tee, with Spring Key	60				
Fig. 127, Tee		0 40	0 45	0 50	0 60
Fig. 132, Lever		55	60	65	75
Fig. 128, Tee		45	50	60	70
Fig. 343, Lever		60	70	85	1 00
Fig. 344, Tee		45	50	60	70
Fig. 134, Lever		60	70	85	1 00
Fig. 135, Tee		55	60	65	90
Fig. 136, Lever		60	70	85	1 00
Fig. 137, Tee		60	70	90	1 25
Fig. 345, Lever		75	90	1 15	1 50

BIBB AIR COCKS



LEVER HANDLE, Fig. 130
TEE HANDLE, Fig. 129

TEE HANDLE, Fig. 131
LEVER HANDLE, Fig. 346



LEVER HANDLE, Fig. 133
TEE HANDLE, Fig. 347

THESE cocks have the same high-class workmanship as other Buckeye products The construction is similar to those on the preceding page except that they have the bibb outlet instead of a straightway outlet.

Prices are listed below for these cocks with either Tee or Lever handle. The key is accurately set to a tight joint, fitting firmly against the tapering walls of the body.

Fig. 131 is made with the key at the side of the body, as this style cock is often more convenient where a very small space is available for installation.

Fig. 133 has the end of the outlet threaded so that a pipe or hose can be attached if desired.

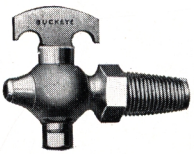
When ordered, British Standard Pipe Thread will be supplied without extra charge.

PRICE LIST

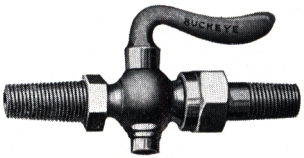
Number	0	1	2	3
Size ..... Inches	⅛	¼	⅜	½
Fig. 129, Tee Handle	0 70	0 75	0 80	0 90
Fig. 130, Lever Handle	80	85	90	1 00
Fig. 131, Tee Handle	85	1 05	1 25	1 50
Fig. 346, Lever Handle	1 15	1 30	1 60	2 00
Fig. 347, Tee Handle	95	1 05	1 25	1 50
Fig. 133, Lever Handle	1 15	1 30	1 60	2 00

BRASS CYLINDER COCKS

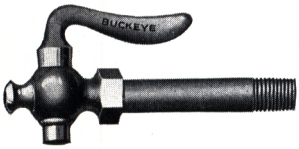
TEE OR LEVER HANDLE



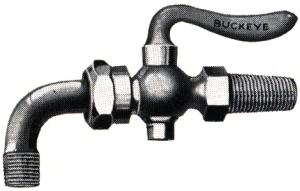
TEE HANDLE, Fig. 141
LEVER HANDLE, Fig. 142
CONN. HANDLE, Fig. 348



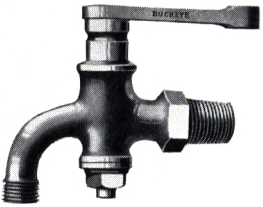
LEVER HANDLE, Fig. 145
TEE HANDLE, Fig. 349
CONN. HANDLE, Fig. 151



LEVER HANDLE, Fig. 144
TEE HANDLE, Fig. 143
CONN. HANDLE, Fig. 148



LEVER HANDLE, Fig. 146
TEE HANDLE, Fig. 350
CONN. HANDLE, Fig. 351



LEVER HANDLE, Fig. 147

THE Buckeye Cylinder Cocks are made in a variety of models, all intended for draining the water which may condense in the cylinders of pumps and steam engines. All of these models can be furnished with either Tee or Lever Handle. The keys are carefully ground to a proper fit, and the cocks are guaranteed to give satisfactory service.

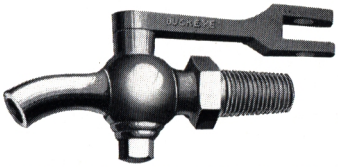
British Standard Pipe Thread will be furnished when ordered without extra charge.

PRICE LIST

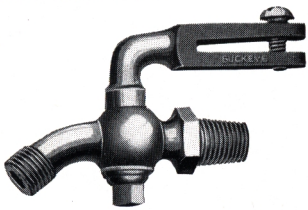
Number	0	1	2	3	5
Size ..... Inches	⅛	¼	⅜	½	¾
Fig. 141, Tee	0 75	0 85	0 95	1 25	2 25
Fig. 142, Lever	90	1 00	1 25	1 35	2 50
Fig. 348, Connecting	90	1 00	1 25	1 35	2 50
Fig. 143, Tee	80	1 00	1 25	2 00	2 50
Fig. 144, Lever	1 10	1 30	1 50	2 00	2 50
Fig. 148, Connecting	.....	1 45	1 70	2 20	.....
Fig. 349, Tee	.....	1 30	1 50	2 00	.....
Fig. 145, Lever	.....	1 40	1 60	1 90	2 50
Fig. 151, Connecting	.....	1 50	1 90	2 50	.....
Fig. 350, Tee	.....	1 30	1 50	2 00	.....
Fig. 146, Lever	.....	1 50	1 70	2 20	3 50
Fig. 351, Connecting	.....	1 50	1 70	2 20	.....
Fig. 147, Connecting	.....	1 30	1 40	1 85	.....

BRASS CYLINDER COCKS

TEE, LEVER OR CONNECTING HANDLE



CONNECTING HANDLE, Fig. 149
TEE HANDLE, Fig. 353
LEVER HANDLE, Fig. 354



CONNECTING HANDLE, Fig. 152
TEE HANDLE, Fig. 357
LEVER HANDLE, Fig. 358

CONNECTING HANDLE, Fig. 150
TEE HANDLE, Fig. 355
LEVER HANDLE, Fig. 356

THE cocks shown here complete the Buckeye line of Cylinder Cocks. If those listed do not include a style which will suit your particular requirements, we shall be glad to have you write us.

The keys in all Buckeye Cylinder Cocks are ground to a fit, insuring a perfect seating of the key against the body walls.

Either Tee, Lever or Connecting Handles can be furnished with the above models.

British Standard Pipe Thread supplied when ordered.

PRICE LIST

Size ..... Inches	¼	⅜	½
Fig. 353, Tee	1 00	1 25	1 75
Fig. 354, Lever	1 45	1 70	2 20
Fig. 149, Connecting	1 45	1 70	2 20
Fig. 355, Tee	90	1 00	1 25
Fig. 356, Lever	1 30	1 40	1 85
Fig. 150, Connecting	1 30	1 40	1 85
Fig. 357, Tee	90	1 00	1 25
Fig. 358, Lever	1 30	1 40	1 85
Fig. 152, Connecting	1 30	1 40	1 85

SPECIAL ROUGH CYLINDER COCK

KEY DISCHARGE

KEY DISCHARGE
Fig. 183

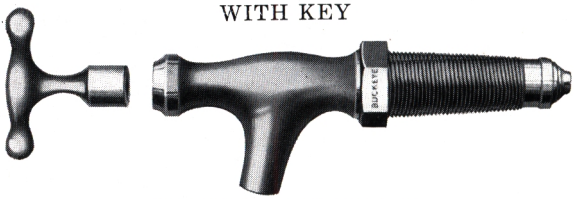
THIS is a cylinder cock of special design and is made with the discharge through key at the bottom. However, there is a boss on the side of the body which can be drilled and used as an outlet if desired.

PRICE LIST

Size ..... Inches	⅜
Fig. 183, Cylinder Cock with Key Discharge.....	1 50

RACKING COCK

WITH KEY



RACKING COCK WITH KEY
Fig. 176

THE Buckeye Racking Cock is used for racking liquids from tanks and barrels. It is used to good advantage on light oils, vinegar, etc. The body is cast of red brass and the stem, which operates within it, has a special composition disc which can easily be replaced when worn.

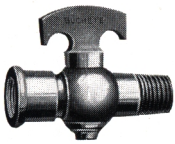
PRICE LIST

Size ..... Inches	¾
Fig .176, Racking Cock with Key.....	2 00

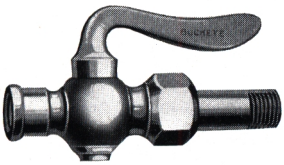
STEAM GAUGE COCKS

TEE OR LEVER HANDLES

TEE HANDLE, Fig. 138
LEVER HANDLE, Fig. 359



TEE HANDLE, Fig. 139
LEVER HANDLE, Fig. 360



LEVER HANDLE, Fig. 140
TEE HANDLE, Fig. 361

THE Buckeye Steam Gauge Cocks are for installation with steam gauges. By placing a reliable stop or control on the steam line just before it enters the gauge, means is provided of shutting off the pressure in case of accident to the gauge.

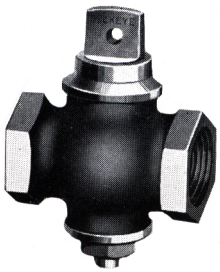
The different models of our line offer a variety which should supply practically every requirement. Either Tee or Lever handles will be supplied on these models.

PRICE LIST

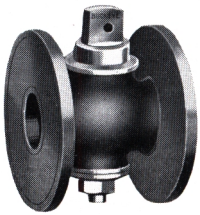
Size ..... Inches	¼	⅜
Fig. 138, Tee Handle, Female	0 75	0 90
Fig. 359, Lever Handle, Female	90	1 10
Fig. 138, Tee Handle, Female with Hexagon Ends	85	.....
Fig. 359, Lever Handle, Female with Hexagon Ends	1 00	.....
Fig. 139, Tee Handle, Male and Female	75	.....
Fig. 360, Lever Handle, Male and Female	90	.....
Fig. 361, Tee Handle, Male Union and Female End	1 75	.....
Fig. 140, Lever Handle, Male Union and Female End	1 90	.....

STEAM STOP COCKS

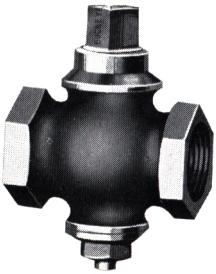
FLANGE OR SCREW ENDS — FLAT OR SQUARE HEAD



FLAT HEAD
Screw Ends
Fig. 83



FLAT HEAD
Flange Ends
Fig. 85



SQUARE HEAD
Screw Ends
Fig. 84

IN order to supply every demand, we offer a complete line of brass steam stop cocks. Only the best red brass alloy is used in Buckeye Valves and Stop Cocks and our reputation has been built on the high standard of the products we produce.

The body construction is strong and durable, scientifically designed with no sharp corners. The inside of the body is carefully machined to an 1¼"-to-the-foot taper and the keys are ground in to insure a steam-tight fit. Keys have a full opening so that the cock when open gives a straightway passage, when closed provides an absolutely steam-tight stop.

These steam stop cocks will be furnished with British Standard Pipe Thread when ordered, without extra charge.

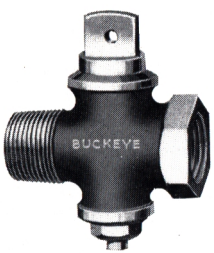
For general dimensions, see page 76.

PRICE LIST

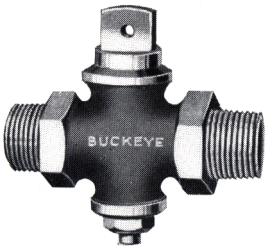
Size .....Inches	¼	⅜	½	¾	1	1¼	1½	2	2½	3	4
Fig. 83, Flat Head, Screwed.....	0 85	1 00	1 25	1 70	2 25	3 70	4 85	7 30	14 50	22 50	50 00
Fig. 84, Square Head, Screwed..	0 85	1 00	1 25	1 70	2 25	3 70	4 85	7 30	14 50	22 50	50 00
Fig. 85, Fl. or Sq. Hd., Flanged	.....	.....	.....	5 50	7 30	9 70	11 75	18 00	27 50	43 00	84 00
Diameter of Flanges.....	.....	.....	.....	3½	4	4½	5	6	7	7½	9

STEAM STOP COCKS

FLAT OR SQUARE HEAD



MALE AND FEMALE
Flat Head
Fig. 86



MALE ENDS
Flat Head
Fig. 88

HANDLE
Fig. 362

WE make not only the screw end and flanged end steam stop cock as shown on the preceding page, but we also make Fig. 86 with male and female ends and Fig. 88 with two male ends. These cocks will be supplied with either flat or square head keys. Except for the openings they have the same construction as Fig. 83 and 84.

Fig. 362 is a cast-iron lever handle. It is made to fit the steam stop cock and is removed except when in use.

When ordering, state whether wanted with square head or flat head key.

These steam stop cocks will be furnished with British Standard Pipe Thread when ordered, without extra charge.

For general dimensions, see page 76.

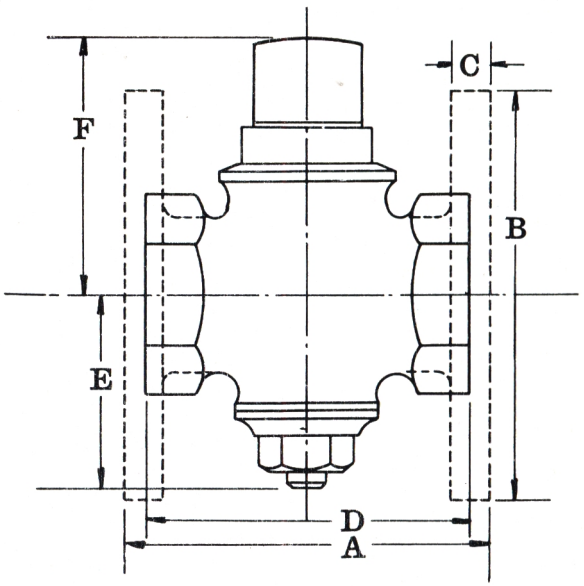
PRICE LIST

Size ..... Inches	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Fig. 86, Male and Female, Flat or Square Head.....	1 35	1 35	1 45	2 00	2 50	3 00	5 35	6 75	9 85	17 50	25 75
Fig. 88, Male Ends, Flat or Square Head.....	1 75	1 75	1 90	2 50	3 25	4 50	6 75	8 25	12 00	20 00	29 00
Fig. 362, Handle.....	07	08	08	09	15	25	35	45	80	1 00	1 25

STEAM STOP COCKS

FLAT OR SQUARE HEADS FLANGE OR SCREW HEADS

Dimensions below refer to Stop Cocks shown on pages 74 and 75.



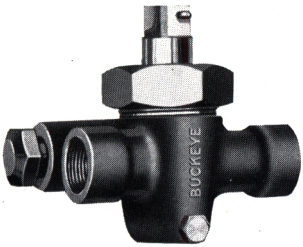
DIMENSIONS

Size of Cock ..... Inches	¼	⅜	½	¾	1	1¼	1½	2
A Face to face, Flange Ends	.....	.....	2 13/16	3 1/8	3 5/8	4 1/8	4 5/8	5 5/8
B Diameter of Flange	.....	.....	3	3 1/2	4	4 1/2	5	6
C Thickness of Flange	.....	.....	5/16	11/32	⅜	13/32	7/16	½
D Face to face, Screw Ends	1 7/8	2	2 1/4	2 3/4	3 1/16	3 13/16	4 3/16	5
E Center of port to bottom of key	1 1/4	1 1/4	1 3/8	1 5/8	1 7/8	2 1/16	2 1/4	2 7/8
F Center of port to top of key	1 5/8	1 5/8	1 7/8	2 1/16	2 1/2	3 1/16	3 1/4	3 13/16

BRASS INDICATOR COCK

EXPANSION JOINT PIPE ELBOW

EXPANSION JOINT
Fig. 369



INDICATOR COCK
Fig. 368

PIPE ELBOW
Fig. 370

THE Buckeye Three-Way Indicator Cock is used on marine engines, and because of the varying demand is not regularly carried in stock. It corresponds in every respect to government specifications.

The body is a strong, heavy casting and is carefully machined, and the plug ground in to a steam-tight fit. The lower end of the stud is cut so that a ¼" screw fits into the bottom of the body, functions as a stop and holds the stud with the openings in the proper positions.

The plug is packed with a gland and a detachable wrench is furnished with each valve.

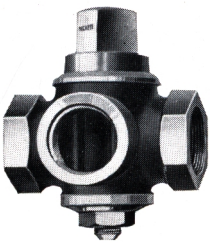
The Expansion Joint and the Pipe Elbow which are used in connection with the Buckeye Three-Way Indicator Cock are heavy brass castings. They comply with government requirements and are made to pack with a gland.

PRICE LIST

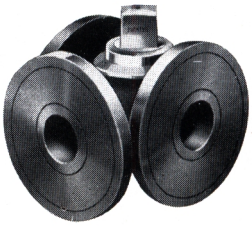
Size ..... Inches	¾
Fig. 368, Indicator Cock	15 00
Fig. 369, Expansion Joint for Indicator Cock	2 50
Fig. 370, Pipe Elbow for Indicator Cock	2 50

THREE WAY STOP COCK

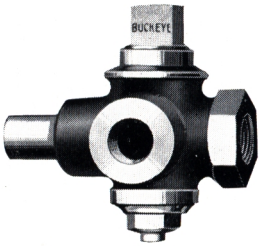
SCREW OR FLANGE ENDS FLAT OR SQUARE HEAD



SCREW ENDS
Fig. 90



FLANGE ENDS
Fig. 91



SOLDER END
Fig. 87

THE Buckeye Three-Way Steam Cocks are cast from the best grade of red brass and are designed for use on lines where the pressure is to be directed on more than one line.

Like the other Buckeye Stop Cocks, the inside of the body is machined accurately to an 1¼"-to-the-foot taper. All keys are ground to a perfect fit, insuring a steam-tight union. They have full openings, and although tightly fit, they turn easily and will not bind or leak.

Keys with two ports will be furnished when ordered, but unless otherwise specified, three-way keys will be supplied.

Fig. 87 is a special three-way cock and is made to order with different size openings. Prices will be quoted on application.

When ordered, British Standard Pipe Thread will be furnished without extra charge.

For general dimensions see opposite page.

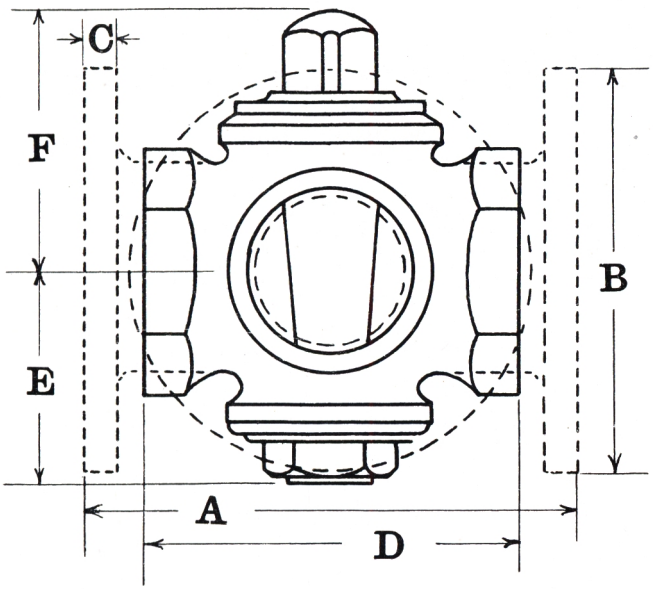
PRICE LIST

Size ..... Inches	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Fig. 90, Screwed	1 50	2 00	2 50	3 00	3 75	5 75	7 15	11 00	18 75	26 00
Fig. 363, Screwed, with Stop.....	1 60	2 10	2 65	3 25	4 00	6 00	7 50	11 35	19 25	26 75
Fig. 91, Flanged	.....	.....	7 25	8 75	11 25	14 75	17 75	27 00	38 25	57 00

THREE-WAY COCK

FLANGED OR SCREWED

Dimensions below refer to Cocks shown on page 78.



DIMENSIONS

Size of Cock ..... Inches	¼	⅜	½	¾	1	1¼	1½	2
A Face to face, Flange Ends	.....	.....	3 1/8	4½	5 1/16	5 5/8	6 3/16	7¼
B Diameter of Flange	.....	.....	3	3½	4	4½	5	6
C Thickness of Flange	.....	.....	1/8	1/2	⅜	1/8	7/16	½
D Face to face, Screw Ends	1⅞	2 3/16	2⅝	3 3/16	3 9/16	4	4 9/16	5¼
E Center of port to bottom of key	1 5/16	1 5/16	1½	1⅝	2 1/16	2¼	2 9/16	3¼
F Center of port to top of key	1⅝	1⅞	1⅞	2 5/16	2⅝	3	3 9/16	4

CORPORATION STOP COCKS AND METER CONNECTION

STRAIGHT UNION
Fig. 364

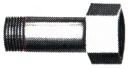


Fig. 363

CURVED UNION
Fig. 365

THE Buckeye Corporation Stop Cock is furnished either with or without the curved union. It is made from our very best grade of red brass and can be used with Mueller, Paynes and Lenox Tapping Machine Screw Plugs so that installation can be made on water main without shutting off water pressure.

When ordering specify thread to be used or submit sample of connecting pipe showing thread; otherwise cocks will be furnished with American Standard Pipe Thread.

The Corporation Stop Cock Union Coupling or Meter Connection is made to specifications on order.

PRICE LIST

Sizes ..... Inches	⅝	¾	1
Fig. 364, Corporation Stop Cock	2 25	2 85	4 50
Fig. 365, Corporation Stop Cock	2 25	2 85	4 50
Fig. 366, Meter Connections 2½" long.....	60	90	1 30

CURB STOP COCK

Fig. 367

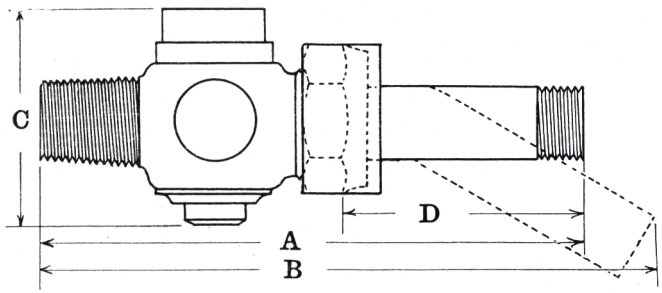
THE Buckeye Curb Stop Cock is also used when a city water main is tapped to make a private installation. By placing this stop cock on the water line at the curb, the private line can be controlled as desired.

PRICE LIST

Size ..... Inches	⅝	¾	1
Fig. 367, Curb Stop Cock	2 20	2 75	3 50

CORPORATION STOP COCK

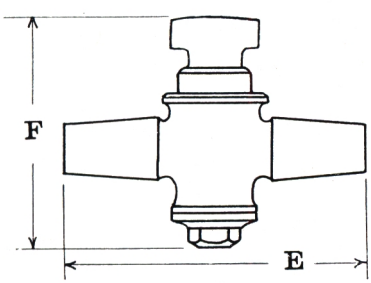
Dimensions below refer to Cocks shown on page 80.



DIMENSIONS

Size of Cock		5/8	3/4
A	Face of inlet to end of Straight Union	5 1/2	6 1/4
B	Face of inlet to end of Curved Union	6 1/8	
C	Height of body including key	2 3/16	2 1/2
D	Length of Union Tail Piece	2 3/8	2 11/16

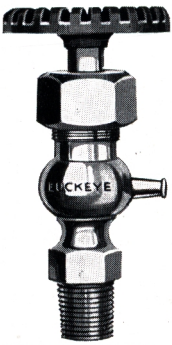
CURB STOP COCK



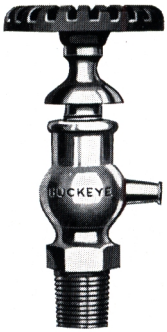
DIMENSIONS

Size of Cock		Inches	5/8	3/4	1
E	End to end solder connection		5	5 1/4	6 13/16
F	Height of body, including key		3 3/4	4 1/8	4 13/16

COMPRESSION GAUGE COCKS



EXTRA HEAVY
Fig. 106



SHORT HEAVY
Fig. 104

LONG
Fig. 101

SHORT
Fig. 102

FIG. 101 shows the long pattern Buckeye Gauge Cock. This pattern is furnished with a stuffing-box or with a shield. The Malleable Iron Ball Wheel is furnished regularly. Order should specify wheel wanted.

Fig. 102 is the short pattern gauge cock. It is also furnished with a stuffing-box or with a shield. The same wheels are furnished as for Fig. 101.

Fig. 104 is a heavy pattern with the short body and shield construction.

Fig. 106 is the extra heavy pattern with stuffing-box. This style gauge cock is used extensively in Canada and has been approved by the Canadian government for 175-pound pressure.

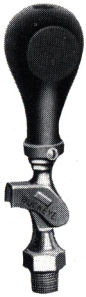
The stems on these models are filled with a babbitt metal of the best composition. As this presses against the brass seat, it is pressed into the same shape as the smooth seat so there is no possibility of leakage. After the stem has worn, it can easily be taken out and refilled.

PRICE LIST

Size ..... Inches	¼	⅜	½	¾
Fig. 100, Long Body, Shield	1 00	1 10	1 25	1 65
Fig. 101, Long Body, Stuffing Box	1 20	1 30	1 45	1 90
Fig. 102, Short, Shield		85	90	1 00
Fig. 103, Short, Stuffing Box		1 00	1 05	1 15
Fig. 104, Heavy, Shield		1 20	1 30	1 80
Fig. 106, Extra Heavy, Stuffing Box		1 40	1 65	1 90
Add for Wood Wheels	10	10	10	10

STEAM GAUGE COCKS

MISSISSIPPI GAUGE COCK
Fig. 107



BALL GAUGE COCK
Fig. 211

THE Mississippi Gauge Cock is well known to all steam users. It is furnished with or without spring.

When screwed into the boiler the pressure holds the disc against the seat. To test for water level, press against the end of the stem and force the disc from its seat. This opens the cock and either water or steam will escape through the opening in the side of the cock.

The Ball Gauge Cock differs in style from the others. A piece of special composition rubber rests over the small hole in the top of the base. The iron ball weight holds the valve shut, and in order to test for water levels it is only necessary to lift the weight.

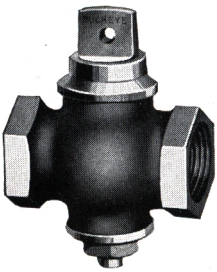
When the head of the boiler is high and difficult to reach, these gauge cocks will be found particularly convenient.

PRICE LIST

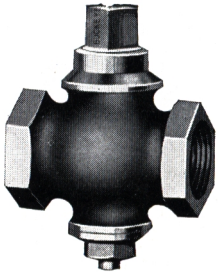
Number	0	1	2	3
Size ..... Inches	¼	⅜	½	¾
Fig. 107, Without Spring	60	75	1 00	1 25
Fig. 108, With Spring	70	85	1 15	1 45
Fig. 211, Ball Gauge Cock		1 00	1 00	1 00

GAS SERVICE COCKS

SCREW ENDS



FLAT HEAD
Fig. 177



SQUARE HEAD
Fig. 178

THE Buckeye Gas Service Cocks are neatly and carefully designed, made of the best alloy and guaranteed to hold gas.

They are installed on the gas line just before the gas enters the meter, and serve as a control at this point.

The body and trimmings are very carefully machined. The stem or key is made with an 1¼"-to-the-foot taper, as this taper by experiment has been found to be the best to use for this style cock.

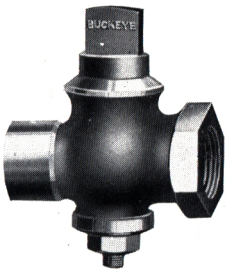
The key is carefully ground to a perfect fit, and will be furnished with either flat or square head.

PRICE LIST

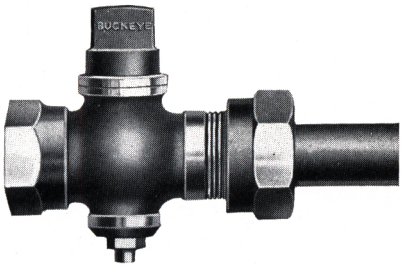
Size ..... Inches	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Fig. 177, Flat Head	0 75	0 85	0 95	1 15	1 50	2 25	3 10	5 00	11 00	16 00
Fig. 178, Square Head	75	85	95	1 15	1 50	2 25	3 10	5 00	11 00	16 00
Fig. 177 or 178 with Stop.....	90	1 00	1 10	1 30	1 70	2 50	3 40	.....	.....	.....
Fig. 179, Flat or Square Head, Extra Heavy, Without Stop..	.....	.....	1 05	1 30	1 70	2 50	3 40	6 50	12 00	18 00
Fig. 179, Flat or Square Head, Extra Heavy with Stop	.....	.....	1 20	1 45	1 90	2 75	3 75	.....	.....	.....

GAS METER COCKS

WITH SOLDER JOINT AND WITH UNION



WITH SOLDER JOINT
Fig. 181



WITH UNION
Fig. 182

THE Buckeye Gas Meter Cock, like the Gas Service Cock shown on the preceding page, is used in connection with gas meter installations.

These cocks are made with solder joints, with or without union, and are installed on the gas line as it leaves the meter.

The key is the same as the service cock key, ground to fit the body and furnished with either flat or square head. The key is designed to give a free and unrestricted passage way when the cock is open.

PRICE LIST

Size ..... Inches	¼	⅜	1	1¼	1½	2
Fig. 181, With Solder Joint	1 30	1 40	1 90	3 00	4 25	6 00
Fig. 182, With Union	1 40	1 55	2 20	3 40	5 00	7 00

TOBACCO PLANTER COCK

THE Buckeye Tobacco Planter Cock is made for use on tobacco planting machines, but can be used just as well on any other connection where a bibb cock with an open passage way is desired.

PLANTER COCK
Fig. 387

PRICE LIST

Size	Inches	1
Fig. 387, Tobacco Planter Cock		4 00

BIBB COCK
Fig. 392

FILTER PRESS BIBB COCK

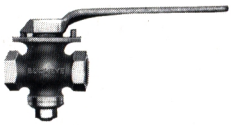
THE Filter Press Bibb Cock is made strong and durable. The key is carefully ground to fit the body so that it can be turned easily but will not leak.

PRICE LIST

Size	Inches	½"
Fig. 392, Filter Press Bibb Cock		2 50

DIAL INDICATOR COCK

THE Buckeye Dial Indicator Cock is used for throttling air, gasoline, gas, and oil engines. A diamond-shaped opening in the key provides a very delicate adjustment and prevents waste. The dial is graduated so that the handle may be turned to allow any certain desired adjustment.



DIAL INDICATOR COCK
Fig. 395

PRICE LIST

Size	Inches	⅜
Fig. 395, Dial Indicator Cock		3 00

WATER GAUGES AND BRASS SPECIALTIES

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Soldering Nipples	108
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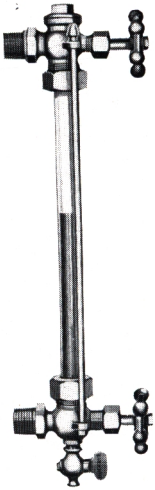
Union	100
Water Gauges	88

STANDARD WATER GAUGES



LIGHT WEIGHT WATER GAUGE
Fig. 374

LIGHT WEIGHT EXPANSION TANK GAUGE
Fig. 375

THE gauges shown here are especially designed to be used on small house water systems where the pressure is less than 100 pounds.

In designing these gauges, particular care has been used to make the walls even, and the strain is amply provided for.

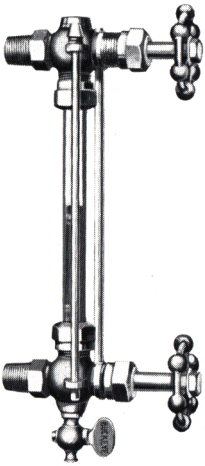
Fig. 374 is made with a valve in the upper and lower body to shut off the water in case the glass breaks. The removable cap in the upper part provides a simple means of putting in a new glass, and a shoulder in the lower part supports the glass. Fig. 375 is even more simple in design. The upper and lower bodies are cast from the same pattern. They are used where there is little or no danger of the glass being broken and no valve is necessary.

Both of these models will be furnished with or without drain cock, in the rough or polished finish.

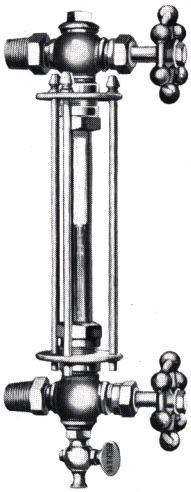
PRICE LIST

Size Glass ..... Inches	10x⅝
Size Pipe Connection..... Inches	½
Fig. 374, Rough, Two Rods, Iron Wheel.....	3 00
Fig. 376, Finished, Two Rods, Iron Wheel.....	3 75
Fig. 375, Rough Two Rods.....	2 75
Fig. 377, Finished, Two Rods	3 50
Fig. 117, Expansion Tank Water Gauge, for 125 lb. Working Pressure.....	2 75
Extra for Wood Wheels	75

STANDARD WATER GAUGES



TWO ROD WATER GAUGE
Fig. 118



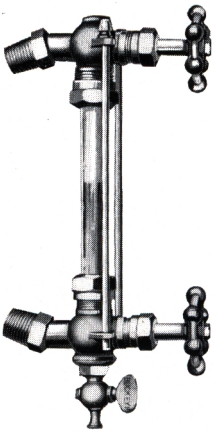
3 OR 4 ROD WATER GAUGE
Fig. 121

THE Buckeye Water Gauges have been designed to give reliable service. The construction of the upper and lower bodies is simple, for we have not burdened our gauges with automatic devices which often interfere with the proper action of the gauge. The valves in the bodies provide a means of shutting off the water in case the glass breaks. Buckye Water Gauges are made with either two, three, or four rods. Ten-inch glasses are supplied unless otherwise ordered, although they will be furnished up to 18″ at special price. Iron Wheels are regularly supplied on all Buckeye Water Gauges, but wood wheels can be furnished at an additional charge.

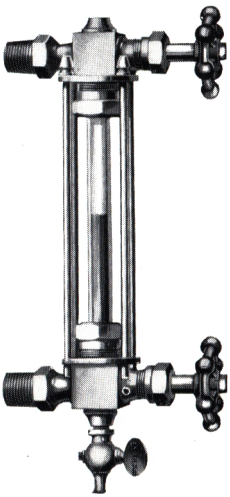
PRICE LIST

Size Glass ..... Inches	10x½	10x⅝	10x¾
Size Pipe Connection ..... Inches	⅜	½	¾
Fig. 118, Size 00, Rough, Two Rods, Iron Wheel	2 60	.....	.....
Fig. 118, Size 00, Finished, Two Rods, Iron Wheel	3 25	.....	.....
Fig. 119, Size 0, Rough, Two Rods, Iron Wheel	.....	3 00	.....
Fig. 119, Size 0, Finished, Two Rods, Iron Wheel	.....	3 75	.....
Fig. 121, Size 1, Rough, Three or Four Rods, Iron Wheel	.....	3 25	.....
Fig. 121, Size 1, Finished, Three or Four Rods, Iron Wheel	.....	4 00	.....
Fig. 419, Rough, Four Rods, Iron Wheel, Like Fig. 118	.....	.....	6 00
Extra for Wood Wheel	75	75	75

STANDARD WATER GAUGES



BENT SHANK
Fig. 120



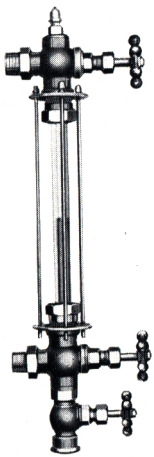
SQUARE BODY
Fig. 122

SOME manufacturers use water gauges which are of special design and which we make to their specifications. Different style drain cocks can be supplied and the gauge bodies can be had with bent shanks for attachment to the side of a boiler. Our experience in the manufacture of water gauges particularly fits us to take care of any special demands. Twelve (12) inch rods and 10-inch glasses are supplied unless otherwise ordered. Iron wheels are regularly supplied on all Buckeye Water Gauges, but wood wheels can be furnished at an additional charge.

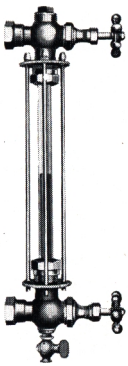
PRICE LIST

Size Glass	Inches	⅝
Size Pipe Connection	Inches	½
Fig. 120, Rough, Two Rods, Bent Shank, Iron Wheel		3 00
Fig. 120, Finished, Two Rods, Bent Shank, Iron Wheel		5 00
Fig. 122, Rough, Four Rods, Square Body, Iron Wheel		4 50
Fig. 122, Finished, Four Rods, Square Body, Iron Wheel		6 00
Extra for Wood Wheel		75

STANDARD WATER GAUGES
REGRINDING WATER GAUGE



3 OR 4 ROD WATER GAUGE
Fig. 124



REGRINDING WATER GAUGE
Fig. 352

THE water gauge shown in Fig. 124 is designed for heavy steam pressure. The upper and lower bodies are cast from red brass and the trimmings are plenty strong to insure long life.

An acorn cap fits into the top of the gauge and can be readily removed to insert new glass.

The drain valve provides a dependable drain for the gauge.

The Buckeye Regrinding Water Gauge has the same features of design as the Regrinding Globe and Angle Stop Valves.

To regrind, loosen the hex ring and unscrew the stuffing-box. Remove the stem and disc and after running a wire through the disc to hold it firmly a new seating surface can be ground by a forward and backward movement of the hand wheel.

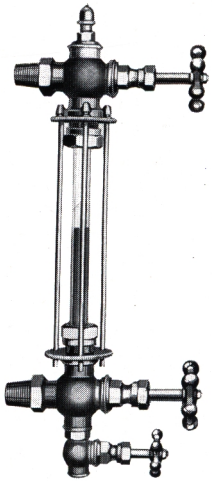
This water gauge is made with either male or female ends.

PRICE LIST

Size Glass ..... Inches	10x⅝	10x¾
Size Pipe Connection ..... Inches	½	¾
Fig. 124, Rough, Three or Four Rods, Iron Wheel	5 25	6 50
Fig. 124, Finished, Three or Four Rods, Iron Wheel	9 00	12 00
Fig. 352, Rough, Regrinding, Three or Four Rods	5 20	.....
Fig. 352, Finished, Regrinding, Three or Four Rods	9 00	.....
Extra for Wood Wheel	75	75

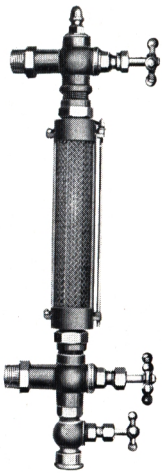
EXTRA HEAVY WATER GAUGES

CANADIAN TYPE



SHORT SHANK
Fig. 371

SOLID GUARD
Used on Fig. 372



LONG SHANK
Fig. 372

THE water gauges illustrated and listed on this page are large and heavy. The upper and lower bodies are both of a special design with thick, heavy walls.

Fig. 371 is the standard body, while Fig. 372 has the long shank body and the special gauge glass protector. Both of these gauges are extensively used in Canada. The glass guards can be removed very easily if desired and the plates and rods put on in their place.

The stringent Canadian laws require extra heavy steam fittings, and these gauges are registered in Canada to comply with Canadian law. They are tested to 300 pounds pressure and passed by Canadian officials for 175 pounds pressure.

PRICE LIST

Size Glass	Inches	12x¾
Size Pipe Connection	Inches	¾
Fg. 371, Rough, 3 Rods, Heavy Pattern		11 00
Fig. 372, Rough, Wire Guard, Long Shank		15 00
Fig. 372, Rough, Solid Guard, Long Shank		13 00

LUBRICATORS—GLASS OIL CUP

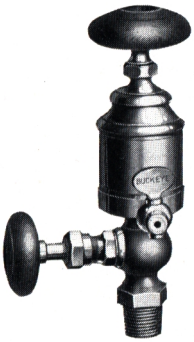


Fig. 116
LUBRICATOR

Fig. 163
GLASS OIL CUP

THE Buckeye Lubricators are for use on small engines and pumps. They are of durable construction, have a highly polished finish, and are guaranteed for satisfactory service. Fig. 115 is a plain lubricator and the valve in the shank makes it possible to regulate and adjust the feed as desired. Fig. 116 has a drip cock at the bottom of the bowl and is made with a tube through which the oil is fed to the cylinder. These lubricators are simple in design and worn parts can easily be replaced.

The Buckeye Glass Oil Cup (Fig. 163) is made of highly polished cast brass. Two holes at the base of the bowl provide the outlet for the oil. It is regulated in its flow by a slotted stem which can be screwed up or down until the desired adjustment is secured.

PRICE LIST

Number	00	0	1	2	3	4	5	6	7	8
Pipe Connections	⅜	⅜	⅜	⅜	½	½	½	¾	¾	¾
Diameter of Bowl	1	1¼	1½	1¾	2	2¼	2½	3	3½	4
Fig. 115, Lubricator	2 00	2 20	2 40	2 60	2 90	3 25	3 75	4 75	7 00	10 00
Fig. 116, With Cock and Tube	3 00	3 20	3 40	3 60	3 90	4 25	4 75	5 75	8 00	11 00
Capacity Ounces	¾	1	1¼	1½	2½	4	5	10	18	24

Number	00	0	1	1½	2	3	4	5
Pipe Connection	⅛	¼	¼	⅜	⅜	⅜	½	½
Diameter of Glass	1⅛	1¼	1½	1¾	2	2¼	2½	3
Fig. 163, Glass Oil Cup	0 75	0 80	1 00	1 25	1 50	1 90	2 40	3 10

OIL CUPS

STRAIGHT SHANK
Fig. 153

STRAIGHT SHANK
Fig. 155

HINGE TOP
Fig. 156

BENT SHANK
Fig. 159

STRAIGHT SHANK
Fig. 160

TEE HANDLE
Fig. 161

LEVER HANDLE
Fig. 162

THE Buckeye line of oil cups offers a variety of models, all of which can be supplied with straight or bent shank. They are for use on gas or steam engines and all kinds of machinery. They are made of durable cast brass and have a highly polished finish.

PRICE LIST

Number	00	0	1	2	3	4	5	6	7	8	9	10
Size Pipe Thread	⅛	⅛	⅛	¼	¼	⅜	⅜	½	½	½	½	¾
Diameter of Bowl	⅝	¾	⅞	1	1⅛	1¼	1½	1¾	2	2¼	2½	2¾
Fig. 153, Straight Shank	0 25	0 30	0 35	0 40	0 60	0 90	1 25	1 60	1 75	2 25	2 75	3 75
Fig. 157, Bent Shank			50	70	85	1 00	1 40	1 80	2 30			
Fig. 158, Bent, female			50	70	85	1 00	1 40	1 80	2 30			
Fig. 154, Straight shank			70	85	1 00	1 20	1 60	2 10	2 70			
Fig. 159, Bent Shank			85	1 15	1 30	1 60	2 10	2 65	3 05			
Fig. 160, Straight Shank				75	1 00	1 25	1 50	2 00	3 00			
Fig. 161, Straight Shank		80	90	1 00	1 50	2 00	2 50	2 75	3 00	3 75	4 50	
Fig. 162, Straight Shank		90	1 00	1 10	1 60	2 20	2 75	3 00	3 25	4 00	5 00	
Fig. 155, Loco Oil Cup, Screw Top	30	35	40	50	75	1 00	1 50	1 80	2 00	2 50	3 00	4 00
Fig. 156, Loco Oil Cup, Hinge Top			70	85	1 20	1 60	2 10	2 50	2 70			

SIPHONS FOR STEAM GAUGES

Fig. 378

Fig. 380

Fig. 379

Fig. 381

A STEAM pressure gauge will not be guaranteed by its maker unless a siphon is connected between it and the boiler so that nothing but water can enter the gauge. The siphon acts as a check valve and holds water at all times so that the steam pressure, as it increases, will force the water into the gauge. The fins on the upper part of the siphon act as a condenser, keeping the water cool and condensing any steam which escapes into this part of the siphon. Fig. 378 is made with a stop cock in the base so that the pressure can be shut off here if any adjustment or repair to the steam gauge is necessary. At the side of the body is a boss into which a test gauge can be inserted for testing the steam gauge.

The laws of some countries require the attachment shown in Fig. 380. This makes it possible to clamp a test gauge to the siphon when it is desired to test the pressure gauge.

Fig. 381 is a siphon of entirely different design, very simple, and for this reason extremely popular with some manufacturers. A drip cock provides a means of draining any sediment which may get into the upper part of the siphon.

PRICE LIST

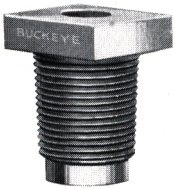
Size ..... Inches	⅜	½	¾
Fig. 378, Siphon with Cock	.....	3 00	3 50
Fig. 379, Siphon without Cock	.....	1 50	2 00
Fig. 380, Siphon Attachment	3 00	.....	.....
Fig. 381, Bent Siphon	3 00	.....	.....

FUSIBLE PLUGS

OUTSIDE STD.
Fig. 186

OUTSIDE STD.
Fig. 187

OUTSIDE STD.
Fig. 188



CANADIAN
STD.
Fig. 382

OHIO & MASS. STD.
OUTSIDE
Fig. 383

OHIO & MASS. STD.
INSIDE
Fig. 384

THE Buckeye Fusible Plugs are made of the finest bronze and filled with pure banca tin. They fulfill the requirement of the supervising inspectors of the Steamboat Inspection Service. The boiler laws of Ohio and Massachusetts require a special length plug. The Ohio and Massachusetts Standard Plug is made in the inside and outside pattern and is approved for use by the inspectors of these states.

See page 98 for dimensions.

PRICE LIST

Size ..... Inches	½	¾	1	1¼	1½	2
Fig. 186, Outside Standard	0 60	0 75	1 00	1 25	1 75	2 50
Fig. 187, Outside Standard	60	75	1 00	1 25	1 75	2 50
Fig. 188, Outside Standard	75	1 00	1 25	1 75	2 50	3 50
Fig. 382, Canadian Standard	75	1 00	1 25	1 75	2 50	3 50
Fig. 383, Ohio and Mass. Std. Outside	1 20	1 50	2 00	3 00	4 00	6 00
Fig. 384, Ohio and Mass. Std. Inside	1 20	1 50	2 00	3 00	4 00	6 00

BOILER PLUGS—INDICATOR PLUGS—TUBE PLUGS

BOILER PLUG
Fig. 189

INDICATOR PLUG
Fig. 190

TUBE PLUG
Fig. 385

THE Buckeye Brass Boiler Plug is made either solid or hollow, and is furnished from ¼″ to 3″. It is convenient to use in stopping a drainage hole in the boiler or to screw into the end of a pipe.

Fig. 190 is a solid brass indicator plug. The head is rounded and polished. It is supplied in sizes below 1″.

Fig. 385 is a small fusible Tube Plug which conforms to the Ohio and Massachusetts state laws. The plug is cast from the very best grade of bronze alloy and the fusible core is of Banca tin.

See page 98 for dimensions.

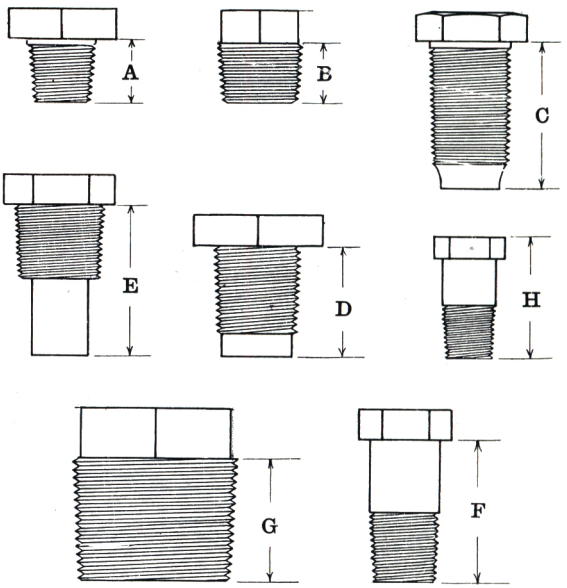
PRICE LIST

Size ..... Inches	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Fig. 189, Heavy Boiler Plug	0 30	0 35	0 45	0 55	0 75	1 00	1 50	2 00	3 00	4 50
Fig. 386, Hollow Boiler Plug	.....	.....	.....	.....	75	1 00	1 50	2 00	3 00	4 50
Fig. 190, Indicator Plug	.....	35	45	55	75	.....	.....	.....	.....	.....
Fig. 385, Ohio & Mass. Std. Fus. Tube Pl'g	.....	55	60	.....	.....	.....	.....	.....	.....	.....

PLUGS

FUSIBLE BOILER TUBE

Dimensions below refer to plugs shown on pages 96 and 97.



FUSIBLE PLUGS

DIMENSIONS

Size ..... Inches	½	¾	1	1¼	1½
A Fig. 186, Length, under the head	¾	$\frac{13}{16}$	$1\frac{1}{16}$	.....	.....
B Fig. 187, Length, under the head	⅝	¾	$1\frac{3}{16}$	.....	.....
C Fig. 188, Length, under the head	$1\frac{1}{8}$	$1\frac{13}{16}$	.....	.....	.....
D Fig. 382, Length, Canadian, under the head	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{7}{16}$	$1\frac{9}{16}$	$1\frac{9}{16}$
E Fig. 383, Ohio and Mass. Standard, Outside, under the head	$1\frac{3}{4}$	$1\frac{7}{8}$	$1\frac{15}{16}$	$2\frac{3}{16}$	$2\frac{5}{16}$
F Fig. 384, Ohio and Mass. Standard, Inside, under the head	$1\frac{3}{4}$	$1\frac{7}{8}$	$1\frac{15}{16}$	$2\frac{3}{16}$	$2\frac{5}{16}$

BOILER PLUG—TUBE PLUG

DIMENSIONS

Size ..... Inches	¼	⅜	½	¾	1	1¼	1½	2	2½	3
G Fig. 189, Boiler Plug, Length under the head	$\frac{9}{16}$	$\frac{9}{16}$	$\frac{9}{16}$	$\frac{9}{16}$	¾	$1\frac{1}{16}$	$1\frac{3}{8}$	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{5}{8}$
H Fig. 385, Tube Plug, Length over all	.....	$1\frac{7}{16}$	$1\frac{1}{2}$	.....	.....	.....	.....	.....	.....	.....

BRASS HOSE PIPE

Fig. 200

Fig. 201

Fig. 202

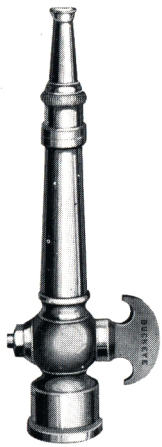


Fig. 203

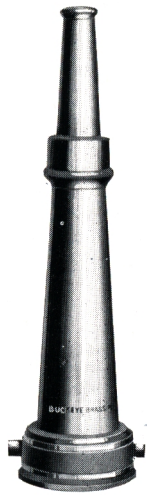


Fig. 204

THE Buckeye Hose Pipe are all highly finished, are supplied with either hose or pipe thread, and are guaranteed to give satisfaction. Order should give complete specifications.

Fig. 203 is scientifically designed for use as a fire chemical hose pipe. It is furnished with either Tee or Lever handle and will be supplied with or without stop.

PRICE LIST

Length .....Inches	¾	¾	¾	¾	1	1	1	1¼	1¼	1½	1½	2½
L'gth Pipe, Inches	6	8	9	12	8	10	12	12	15	12	15	15½
Fig. 200, Per Doz...	4 00											
Fig. 201, Per Doz...		7 00		10 00	9 00		12 00					
Fig. 202, Per Doz...	7 00	8 00	9 00	10 00	10 00	11 00	12 00	20 00	24 00	25 00	30 00	
Fig. 203, Per Doz...		13 00	18 00	20 00	15 00	19 00	24 00		45 00			
Fig. 204, Per Doz...												120 00
Hose Pipe Tips.....	4 00	4 00	4 00	4 00	4 00							

BRASS HOSE COUPLINGS

Fig. 205

Fig. 207

Fig. 206

THE Buckeye Brass Hose Couplings are cast in three styles as illustrated. They can be inserted in a hose without fear of leak or break. Fig. 207 is a female end coupling ordinarily used on the end of a hose to attach to a hydrant.

PRICE LIST

Size ..... Inches	½	¾	1	1¼	1½	2	2½	3	3½	4
Fig. 205	0 40	0 50	0 75	1 00	1 50	2 00	.....	.....	.....	.....
Fig. 206	40	50	75	1 00	1 50	2 00	4 00	6 50	10 00	12 50
Fig. 207	16	20	28	65	90	1 45	.....	.....	.....	.....

BRASS GROUND JOINT UNION

GROUND JOINT UNION
Fig. 197

THE Brass Ground Joint Union is made in three parts and is used as a pipe connection. The bottom of the upper part as illustrated has a tapering seat. The end of the lower half is tapered to correspond and ground to a solid steam-tight fit. The union lock ring holds these parts together. It is furnished either rough or finished in sizes from ⅛" to 3".

PRICE LIST

Size ..... Inches	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Fig. 197, **Rough**	0 35	0 40	0 55	0 75	1 00	1 40	1 90	2 75	4 00	6 00	8 50
Fig. 197, Finished	.....	80	90	1 10	1 55	1 90	2 30	3 25	5 50	.....	.....

AIR VALVE
Fig. 210

AUTOMATIC AIR VALVE FOR INDIRECT RADIATORS

THE Buckeye Automatic Air Valve for indirect radiators is used as a fusible plug on low pressure boilers. It serves as a safety appliance on small boilers in connections with private steam heating systems.

PRICE LIST

Size ..... Inches	⅜	½	¾
Fig. 210, Automatic Air Valve	0 90	0 90	0 90

BRASS TANK FLANGES

THIS brass tank flange is made particularly for use on galvanized iron tanks. Holes are drilled on the flange so that it can be riveted to the tank before soldering. The part which projects into the tank is threaded so that a faucet or drain cock may be inserted.

TANK FLANGE
Fig. 388

PRICE LIST

Size ..... Inches	¼	⅜	½	¾	1	1¼	1½	2
Diameter of Flange ..... Inches	.....	1½	1 1/16	1 3/16	2 3/16	2¾	3	3¾
Fig. 388, Brass Tank Flange	0 35	0 45	0 60	0 75	0 90	1 20	1 50	2 00

BRASS AIR NOZZLES

AIR NOZZLE
Fig. 389

THE Buckeye Air Nozzle is used extensively in machine shops, foundries, and assembling rooms where all parts must be free from grit and dirt. By simply pressing a small knob the air pressure is released and can be directed as desired. It is used in the foundry for blowing off sand molds, flasks, patterns, and core boxes.

PRICE LIST

Size ..... Inches	½	¾
Fig. 389, Brass Air Nozzle	2 25	3 00

SUCTION HOSE STRAINERS

WIRE GAUZE
Fig. 390

DRILLED
Fig. 391

THE Buckeye Suction Hose Strainers are attached to the end of a hose when water is being drawn from a creek or river to supply an engine. It is protection against drawing dirt and other foreign material into the boiler.

PRICE LIST

Size ..... Inches	¾	1
Fig. 390, Strainer with Wire Gauze	0 60	1 00
Fig. 391, Strainer with Drilled Holes	50	80

BRASS OIL BURNERS

OIL BURNER
With Double Union
Fig. 393

OIL BURNER
With One Union
Fig. 394

THE difficulty of securing coal for fuel is largely responsible for the great increase in the amount of crude oil which is being burned for fuel by manufacturers. The Buckeye Oil Burners meet the demand for a burner which is adjustable and which will minimize the fuel expense.

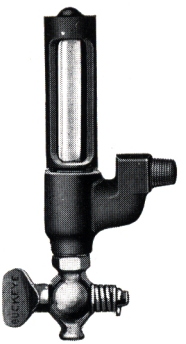
PRICE LIST

Size ..... Inches	¾
Fig. 393, Double Union	5 00
Fig. 394, Single Union	4 00

BRASS OIL GAUGE

THIS Oil Gauge is very simple in design. It attaches to the crank case and the oil level in the motor is shown in the gauge glass. The glass is well guarded by the shield, but if broken it is only necessary to unscrew the shield in order to insert a new glass. A drip cock provides a means of draining any sediment which may collect in the gauge.

See page 105 for general dimensions.



OIL GAUGE
Fig. 396

PRICE LIST

Size	⅛
Fig. 396, Oil Gauge with Drip	1 00
Fig. 396, Oil Gauge without Drip	70

AIR INTAKE VALVE

VERTICAL
Fig. 397

ANGLE
Fig. 398

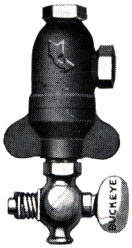
THE Buckeye Air Intake Valve is used extensively on pumps for house water systems. It is made in both the vertical and angle patterns with male ends. A ball check controls the amount of air taken in and prevents a leakage of air or water. It is simple in design, has a polished brass finish, and is absolutely dependable.

See page 105 for general dimensions.

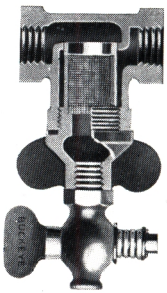
PRICE LIST

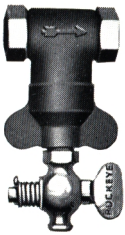
Size ..... Inches	⅛	¼
Fig. 397, Vertical		1 00
Fig. 398, Angle	80	1 00

GASOLINE STRAINERS



ANGLE
Fig. 399





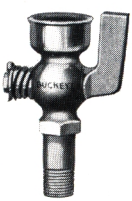
GLOBE
Fig. 400

THE Buckeye Gasoline Strainer is placed on the gasoline line close to the carburetor, and as the gasoline comes from the tank it passes over the valve seat and into the reservoir around which is a very fine gauze wire. As the gasoline passes out of the reservoir, grit and particles of dirt drop to the bottom where they can be drained off through the drain cock. When desired, the fine mesh strainer can be removed for cleaning.

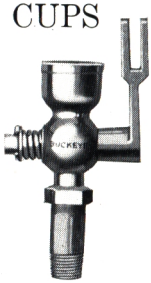
PRICE LIST

Size ..... Inches	⅛	¼
Fig. 399, Angle Strainer	1 45	1 55
Fig. 400, Globe Strainer	1 45	1 55

GASOLINE PRIMING CUPS



LEVER HANDLE
Fig. 402



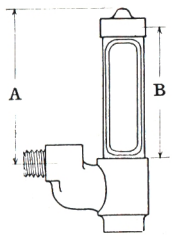
CONNECTING HANDLE
Fig. 403

PRICE LIST

Size ..... Inches	⅛	¼	⅜
Inside Diameter of Cup ..... Inches	⅝	13/16	⅜
Fig. 402, Lever Handle	0 85	1 10	1 65
Fig. 403, Connecting Handle	1 15	1 50	2 00

OIL GAUGE

Dimensions below refer to Oil Gauge on page 103.

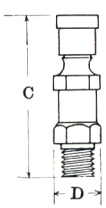


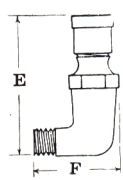
DIMENSIONS

Size of Gauge	Inches	1/8
A Height from center of connection to top of gauge		2 3/8
B Length of glass		2

AIR INTAKE VALVES

Dimensions below refer to Air Intake Valves on page 103.





DIMENSIONS

Size of Valve	Inches	1/8	1/4
C Height of Vertical Valve			2 1/2
D Width of Vertical Valve			3/4
E Height of Angle Valve		2 1/8	
F Width of Angle Valve		1 1/4	
Diameter of Ball		1/4	1/4

BRASS FITTINGS

BRASS FITTINGS, ROUGH

PRICE LIST

Size .....Inches	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4
Elbows, Fig. 218....Each	0 12	0 17	0 21	0 28	0 35	0 50	0 80	1 10	1 50	3 50	4 50	7 00	10 00
Elbows Reducing	.....	22	26	35	45	62	1 10	1 40	1 90	4 40	5 65	8 75	12 50
Elbows, 45°, Fig. 219.....	.....	20	25	35	50	75	1 15	1 50	2 25	4 25	7 00	9 00	10 00
Elbows, Return, Open, Fig. 220.....	.....	.....	40	50	1 00	1 35	2 00	3 00	4 50	.....	.....	.....	.....
Elbows, Return, Close, Fig. 221	.....	.....	35	40	75	1 15	1 65	2 50	4 00	.....	.....	.....	.....
Street Elbows	.....	.....	.....	55	75	1 00	1 80	2 25	3 50	.....	.....	.....	.....
Tees, Fig. 222	15	20	30	40	50	75	1 00	1 30	1 75	4 00	5 50	9 00	13 00
Tees, Reducing	.....	25	38	50	63	95	1 25	1 65	2 20	5 00	6 90	11 25	16 50
Crosses, Fig. 223	.....	30	40	50	60	80	1 50	2 00	3 50	.....	.....	.....	.....
Crosses, Reduced	.....	38	50	65	75	1 00	1 90	2 50	4 40	6 25	8 75	12 50	18 00
Caps, Fig. 224	15	15	20	25	35	45	60	80	1 10	2 00	3 00	.....	.....
Plugs, Fig. 225.....	09	10	12	15	20	28	40	50	90	1 25	2 00	3 00	4 00
Reducers, Fig. 226, Reducing One Side	.....	16	22	32	45	65	90	1 12	1 85	3 00	4 50	.....	.....
Couplings, Fig. No. 227..	10	14	16	25	37	50	60	90	1 35	2 40	3 50	.....	.....
Lock Nuts, Fig. 228.....	.....	10	12	15	20	35	45	70	95	1 50	2 75	.....	.....
Nipples, Close, Fig. 229..	12	15	20	25	30	40	60	90	1 25	2 50	3 50	.....	.....
Nipples, Short, to 4" Long, Fig. 230	15	20	30	35	45	60	90	1 25	1 60	3 00	4 50	.....	.....
Bushings, Reduced One Size, Fig. 232.....	.....	10	12	14	21	38	50	67	1 00	1 50	2 50	.....	.....
Bushings, Reduced Two Sizes	.....	10	12	14	21	38	50	67	1 00	1 50	2 50	.....	.....
Nipples, Hose, Fig. 231..	.....	.....	.....	30	30	42	75	84	1 17	2 34	3 34	4 17	6 25

BRASS FITTINGS, FINISHED

PRICE LIST

Size .....Inches	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4
Elbows, Fig. 218.....	0 24	0 34	0 42	0 56	0 70	1 00	1 70	2 20	3 00	7 00	9 00	14 00	20 00
Elbows, Reducing	.....	44	52	70	90	1 25	2 00	2 80	3 80	8 80	11 30	17 50	25 00
Elbows, 45°, Fig. 219....	.....	40	50	70	1 00	1 50	2 30	3 00	4 50	8 50	14 00	18 00	20 00
Elbows, Return Open, Fig. 220	.....	.....	80	1 00	2 00	2 70	4 00	6 00	9 00	.....	.....	.....	.....
Elbows, Return Close, Fig. 221	.....	.....	70	80	1 50	2 30	3 30	5 00	8 00	.....	.....	.....	.....
Street Elbows	.....	.....	.....	83	1 10	1 50	2 65	4 50	7 00	.....	.....	.....	.....
Tees, Fig. 222	30	40	60	80	1 00	1 50	2 00	2 60	3 50	8 00	11 00	18 00	26 00
Tees, Reducing	.....	50	76	1 00	1 25	1 90	2 50	3 30	4 40	10 00	13 80	22 50	32 50
Crosses, Fig. No. 223..	.....	60	80	1 00	1 20	1 60	3 00	4 00	7 00	10 00	14 00	20 00	29 00
Crosses, Reducing	.....	75	1 00	1 30	1 50	2 00	3 80	5 00	8 80	12 50	17 50	25 00	36 00
Caps, Fig. 224	30	30	40	50	70	90	1 20	1 60	2 20	4 00	6 00	.....	.....
Plugs, Fig. 225	18	20	24	30	40	56	80	1 00	1 80	2 50	4 00	6 00	8 00
Couplings, Fig. No. 227	20	28	32	50	75	1 00	1 20	1 80	2 70	4 80	7 00	.....	.....
Lock Nuts, Fig. 228....	.....	20	24	30	40	60	90	1 40	1 90	3 00	5 50	.....	.....
Bushings, Fig. 232.....	.....	20	24	28	42	76	1 00	1 35	2 00	3 00	5 00	.....	.....

SOLDERING NIPPLES

MALE
Fig. 212

FEMALE
Fig. 213

BUCKEYE Soldering Nipples are made with either male or female connection. Sizes above 2″ will be made to order at special prices.

PRICE LIST

Size ..... Inches	⅜	½	¾	1	1¼	1½	2
Fig. 212, Male	0 19	0 21	0 25	0 42	0 63	0 84	1 17
Fig. 213, Female	19	21	25	42	63	84	1 17

BRASS EXPANSION JOINT

Fig. 199

THE Buckeye Brass Expansion Joint is installed on pipe lines to care for the expansion and contraction of the line.

It is well made with deep, strong threads which insure a strong and reliable connection.

PRICE LIST

Size ..... Inches	¾	1	1¼	1½	2	2½	3
Travel in Inches	2	2¼	2¼	2¼	2½	2½	2¾
Fig. 199, Brass Expansion Joint	2 20	2 75	4 00	5 00	8 00	17 50	24 00

CEMENT TOOLS

EDGER
Fig. 248

STEP TOOL
Fig. 249

JOINTER
Fig. 250

TAMP
Fig. 251

BUCKEYE Cement Tools will outlast the ordinary cement tool. Being made of brass, they are not subject to rust. The faces are carefully finished to give clean, smooth surfaces when worked on the cement.

Fig. 248 is an Edger used to secure a smooth side along the edge of a cement block.

Fig. 249 is an inside Step Tool and can be used any place where a right angle is to be finished.

Fig. 250 is a Jointer, used to finish a smooth joint between squares.

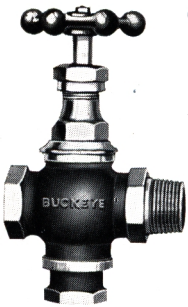
These three tools are cast with the iron handle in them and a wood handle can be attached of a desirable length.

Fig. 251 is an iron tamp used for tamping down the grouting before the cement is poured. This tamp has also been found useful for tamping sod and leveling lawns.

PRICE LIST

	Size	Price
Fig. 248, Brass Edger	8" long, 2½" face	1 00
Fig. 249, Brass Step Tool	8" long, 1½" face	1 00
Fig. 250, Brass Jointer	8" long, 2" face	1 00
Fig. 251, Cast Iron Tamp	8"x 8"	1 00

GASOLINE PUMP VALVES



DOUBLE SEAT
Fig. 339

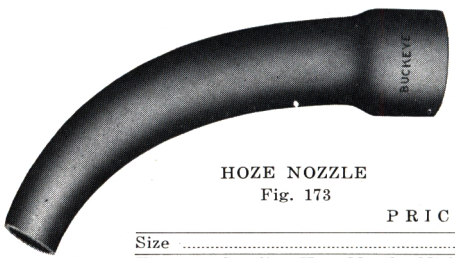
THESE valves are specially designed for gasoline filling station pumps where a quick, absolutely reliable action is necessary. They have a double thread on the stem and require only two turns to open or two turns to close. Fig. 339 is a double-seated cross valve with one seat on the bottom of the diaphragm and one in the bottom connection. They are both packed with a gland and are absolutely dependable.

GLOBE
Fig. 404

PRICE LIST

Size ..... Inches	½	¾	1	1¼
Fig. 339, Gasoline Double-Seated Cross Valve	3 50	4 50	6 00	
Fig. 404, Gasoline Globe Valve		2 00	2 50	3 00

GASOLINE HOSE NOZZLE



HOZE NOZZLE
Fig. 173

THE Gasoline Hose Nozzle is designed for use at gasoline filling stations. The large end screws into the end of the hose. The other end is placed into the gasoline tank when the pump is in operation.

PRICE LIST

Size	¾	1
Fig. 373, Gasoline Hose Nozzle, Nickel Plated	1 60	2 00

GASOLINE DRAIN COCK WITH KEY

THE Gasoline Drain Cock is used at filling stations to keep the gas line open and clean. The plug has a composition disc which is brought tightly to bear upon the seat and makes this style drain cock dependable at all times. The key fits into the square recess and in this manner the cock is opened and closed.

Fig. 405

PRICE LIST

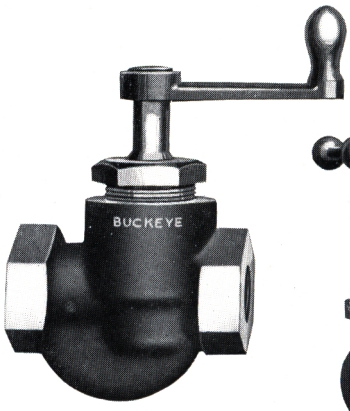
Size ..... Inches	¼
Fig. 405, Gasoline Drain Cock with Key	1 00

HYDRAULIC VALVES

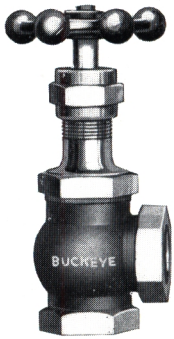
	Page
Check Valves	114 and 118
Fittings	116
Relief Valves	112
Safety Valves	115
Stop Valves	112 and 118

HYDRAULIC STOP AND RELIEF VALVES

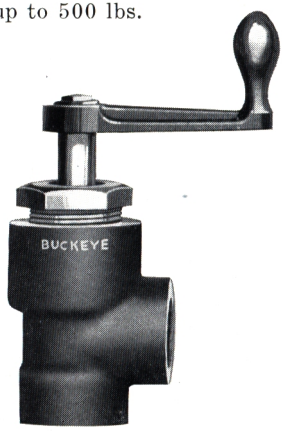
Figs. 234 and 235 for Working Pressures up to 2000 lbs.
Fig. 233 for Working Pressures up to 500 lbs.



GLOBE
Fig. 235



ANGLE
Fig. 233



ANGLE
Fig. 234

THE valves shown here are made to order for different working pressures. Fig. 233 is only made for working pressures up to 500 lbs. Fig. 234 and Fig. 235 can be made to be used with working pressures from 500 lbs. to 2000 lbs. This is accomplished by machining a large seat opening for the lower working pressures while a relatively small seat opening is machined in the body if the valve is to be used for extra high pressure work.

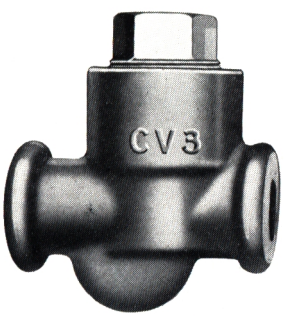
It is, therefore, absolutely necessary that order specify working pressure to be used.

PRICE LIST

Size	Inches	½	¾	1
Fig. 233 or 406, Center of port to face of inlet or outlet	Inches	1 5/16	1 3/8	1 7/8
Fig. 233 or 406, Center of port to top of stem	Inches	3 1/2	4 3/4	5 3/4
Fig. 234, Center of port to face of inlet or outlet	Inches	1 1/4	1 1/2	2 3/4
Fig. 234, Center of port to top of body	Inches	1 1/2	2 1/8	2 3/8
Fig. 235, Face to face	Inches		4 3/8	4 3/8
Fig. 235, Height of body	Inches		4	4
Fig. 233, Hydraulic Angle Stop Valve, 500 pounds pressure		4 00	5 50	7 50
Fig. 406, Hydraulic Cross Stop Valve, 500 pounds pressure		6 00	7 50	10 00
Fig. 234, Hydraulic Angle Relief Valve, 2000 pounds pressure		5 50	8 00	10 00
Fig. 235, Hydraulic Globe Relief Valve, 2000 pounds pressure		5 50	8 00	10 00
Fig. 236, Hydraulic Angle Relief Valve, 2500 pounds pressure		9 00	12 00	15 00

EXTRA HEAVY HYDRAULIC CHECK AND STOP VALVES

For Working Pressures up to 5000 lbs.



HYDRAULIC CHECK VALVE
Fig. 409

HYDRAULIC STOP VALVE
Fig. 410

THESE hydraulic valves are without question of the most practical design on the market. They are cast from our special alloy which contains a minimum of lead and a maximum of tin and copper. This alloy is used even on the smaller sizes, and we guarantee these valves for 5000 pounds pressure.

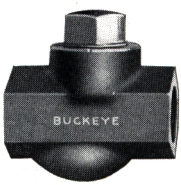
The check and stop valve bodies are from the same pattern. They are scientifically designed for obtaining great tensile strength. The walls are thick and well proportioned. Four wings on the inside of the check valve body serve as guides for the steel check disc, and a leather washer fits between a shoulder in the body and the solid brass plug which screws down on it and makes a steam-tight fit. The check disc has a lift of $\frac{1}{8}$" to $\frac{3}{16}$".

PRICE LIST

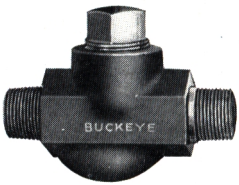
Size ..... Inches	¼	⅜	½	¾	1	1¼	1½
Face to face ..... Inches	1⅞	1⅞	4¾	5	4⅝	5⅜	5⅜
Center of port to top of body ..... Inches	1 5/16	1 5/16	1⅝	2⅝	2¾	2¾	2¾
Center of port to bottom of body ..... Inches	1 3/16	1 3/16	1¾	2	2	2⅝	2⅝
Fig. 409, Hydraulic Stop Valve, Brass	5 20	5 60	10 00	12 00	14 00	16 00	17 00
Fig. 409, Hydraulic Stop Valve, Steel	.....	.....	.....	12 00	14 00	.....	.....
Fig. 410, Hydraulic Check Valve, Brass	5 30	5 80	10 00	12 00	15 00	17 00	18 00
Fig. 410, Hydraulic Check Valve, Steel	.....	.....	.....	12 00	15 00	.....	.....

HYDRAULIC CHECK VALVES

For Working Pressures up to 2500 lbs.



HORIZONTAL FEMALE
Fig. 237



HORIZONTAL MALE
Fig. 407

THE Buckeye Hydraulic Check Valves have been in use for many years and have proven their worth under the most severe tests.

There are only three pieces in this simply constructed valve—body, cap, and disc. The alloy which goes into it has a much greater tensile strength than that used in ordinary valves.

The body is made with either male or female ends, and the thickness of the walls gives absolute security up to 2500 pounds. The disc is a simple brass plug which is machined to work up and down guided by the inside walls of the cap.

British Standard Pipe Thread will be furnished when ordered without extra charge.

PRICE LIST

Size ..... Inches	½	¾	1
Face to face, female ends	2⅞	3⅜	4¾
Face to face, male ends	.....	4¾	6⅜
Height of body	2½	2¾	3¾
Fig. 237, Hydraulic Check Valve, Horizontal, Female	4 00	7 00	11 00
Fig. 238, Hydraulic Check Valve, Horizontal, Union Thread	4 00	7 00	11 00
Fig. 407, Hydraulic Check Valve, Horizontal, Male	4 00	7 00	11 00

HYDRAULIC SAFETY VALVES

For Working Pressures from 500 to 2500 lbs.

STRAIGHT OUTLET
Fig. 245

DRILLED
Fig. 408

BIBB OUTLET
Fig. 244

THE Hydraulic Safety Valve is made with bibb or straight outlet. If a greater pressure than 2500 lbs. is wanted, valve will be made to order.

When ordering, specify adjustment wanted.

PRICE LIST

Size ..... Inches	½	¾
Fig. 244, Hydraulic Safety, Bibb Outlet	6 00	7 00
Fig. 245, Hydraulic Safety, Straight Outlet	6 00	7 00
Fig. 408, Hydraulic Safety, Drilled		5 00

HYDRAULIC AIR COCK

AIR COCK
Fig. 247

THE Hydraulic Air Cock is used on high-pressure lines, and is a great convenience. It is furnished in the ¼" size only.

PRICE LIST

Size ..... Inches	¼
Fig. 247, Hydraulic Air Cock	0 75

HYDRAULIC FITTINGS

BRASS AND STEEL

For Working Pressures up to 5000 lbs.

ELBOW
Fig. 241

COUPLING
Fig. 243

TEE
Fig. 242

BALL UNION
Fig. 411

ALL Buckeye Hydraulic Fittings are for working pressures up to 5000 pounds. The Elbows, Tees, and Couplings will be furnished in either brass or steel. They are sturdy in construction, are carefully machined and the thick walls will not give or expand under pressure.

Every fitting is carefully tested before shipment is made.

British Standard Pipe Thread will be furnished without extra charge when ordered.

General dimensions are listed on opposite page.

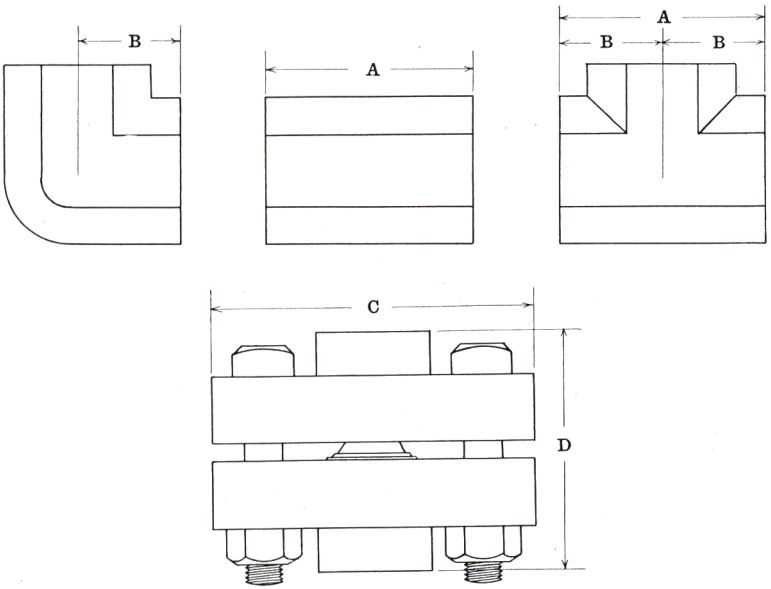
PRICE LIST

Size ..... Inches	¼	⅜	½	¾	1	1¼	1½
Fig. 241, Elbow, Brass	0 90	1 10	1 40	2 20	3 40	4 00	4 70
Fig. 242, Tee, Brass	1 00	1 30	1 90	2 80	3 40	5 00	6 00
Fig. 243, Coupling, Brass	90	1 10	1 40	2 20	3 00	3 40	4 00
Fig. 411, Ball Union, Brass	2 50	2 90	6 30	6 80	7 00	10 00	12 00
Fig. 418, Cross, Brass	1 90	2 30	3 00	4 70	6 80	8 20	10 00

Size ..... Inches	⅜	½	¾	1	1¼	1½
Fig. 241, Elbow, Steel, 45°	1 20	1 45	1 90	2 20	2 80	3 50
Fig. 241, Elbow, Steel, 90°	1 00	1 20	1 60	1 80	2 30	2 80
Fig. 242, Tee, Steel	1 50	1 80	2 20	2 60	3 40	4 40
Fig. 243, Coupling, Steel	1 00	1 10	1 60	1 90	2 40	2 50
Fig. 418, Cross, Steel	2 10	2 50	3 00	4 50	5 60	8 00

HYDRAULIC BRASS AND STEEL FITTINGS

Dimensions below refer to fittings shown on page 116.



DIMENSIONS

BRASS

Size of Connection ..... Inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
A Face to face Coupling or Tee	1 9/16	1 9/16	2 3/8	2 5/8	2 5/8	3 3/16	4 1/8	.....
B Center to face, Tee, Elbow, or Cross	1	1	1 3/32	1 1/2	1 5/16	1 5/8	2 1/16	.....
C Width of Ball Union	3 1/8	3 1/8	4 7/8	4 7/8	4 3/4	5 5/8	6 1/8	7 3/8
D Height of Ball Union, face to face	2 1/4	2 1/4	3 9/16	3 9/16	3 1/2	4 3/8	4 1/4	3 3/4

DIMENSIONS

STEEL

Size of Connection ..... Inches	3/8	1/2	3/4	1	1 1/4	1 1/2	2
A Face to face, Coupling or Tee	1 1/2	1 3/4	2 1/8	2 3/8	2 3/4	3	3 1/2
B Center to face, Tee, Elbow, or Cross	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4
C Width of Ball Union	.....	4 3/4	4 3/4	5 1/2	5 1/2	6	.....
D Height of Ball Union, face to face	.....	3 1/4	3 1/4	4 3/16	4 3/16	3 3/4	.....
Weight of Coupling ..... Pounds	1/2	3/4	1 3/4	2 1/2	3 1/2	4 1/2	5 3/4
Weight of Tee ..... Pounds	3/4	1 1/2	1 1/2	2 1/4	3	5 1/4	7
Weight of Elbow ..... Pounds	1/2	1	1 1/4	1 3/4	2 1/2	4	6

IN the foregoing sections, we have tried to give complete information regarding the material produced in our Brass Department.

The section which follows refers to the Iron Body Valves which we manufacture.

In addition to our complete line of valves, fittings, etc., we are equipped to handle a large quantity of special job work and will quote prices on request.

Brass, bronze, and aluminum castings will be handled through our own foundry and parts will be finished complete if desired.

Steel valves, not listed in this catalog, will be furnished when ordered and prices quoted on request.

IRON VALVES

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Blow-Off Valve	136
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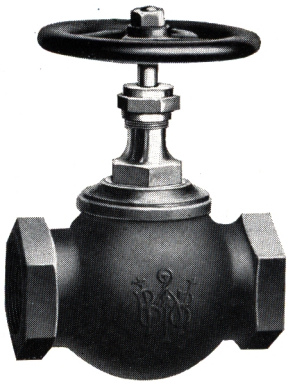
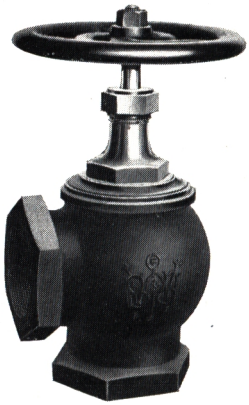
IRON BODY BRASS-MOUNTED VALVES

Regular Pattern for Working Pressures up to 125 lbs.



GLOBE
Fig. 1



ANGLE
Fig. 5

THE Buckeye Iron Body Valves have a sturdy, neat design, are well proportioned, and have great tensile strength. The brass trimmings are very carefully machined and highly polished. A brass disc is regularly supplied, and the seat, which is also of brass, is screwed into the diaphragm. This seat is interchangeable and can be removed and replaced when worn. Sizes up to and including 3″ are furnished with a brass stem. Larger sizes are made with a steel stem.

When ordered, these Valves will be made to pack under pressure, for which an extra charge will be made.

Every valve is thoroughly tested under hydraulic pressure before shipment is made, and is guaranteed for 125 pounds working pressure.

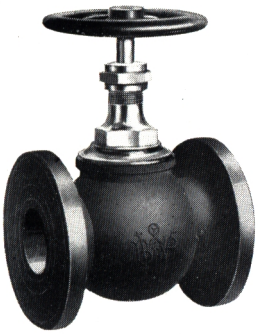
For general dimensions, see page 122.

PRICE LIST

Size ..... Inches	1	1¼	1½	2	2½	3	3½	4	4½
Fig. 1, Globe, Screwed, Regular	2 25	2 75	3 50	5 40	7 35	9 80	15 00	18 00	25 00
Fig. 5, Angle, Screwed, Regular	2 25	2 75	3 50	5 40	7 35	9 80	15 00	18 00	25 00
Fig. 501, Cross, Screwed, Regular	3 25	3 85	4 80	7 00	9 00	12 50	17 00	19 50	29 00

IRON BODY BRASS-MOUNTED VALVES

Regular Pattern for Working Pressures up to 125 lbs.



GLOBE
Fig. 2

ANGLE
Fig. 6

THE Valves shown here are of the same design and principle as those shown on the preceding page, except they have flanged instead of screwed ends. The brass trimmings are the same.

Finished iron hand wheel will be furnished when ordered, for which an extra charge will be made. If desired with extra heavy flanges, prices will be quoted on application.

Our Iron Valves are specimens of high-grade workmanship. Some of our very best valve builders have been at work in our iron valve department for a great many years, and their workmanship has held the Buckeye Iron Valves to their present high degree of perfection.

Regular pattern is guaranteed for 125 pounds working pressure.

For general dimensions, see page 122.

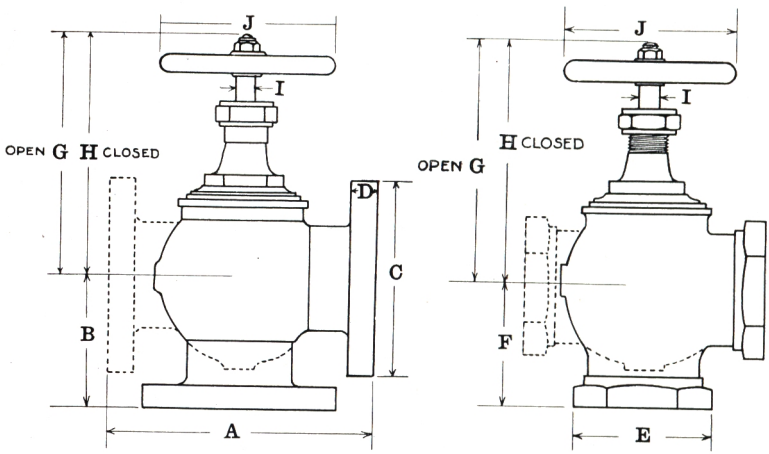
PRICE LIST

Size ..... Inches	1	1¼	1½	2	2½	3	3½	4	4½
Fig. 2, Globe, Flanged, Regular.....	3 25	3 85	4 80	7 00	9 00	12 50	17 00	19 50	29 00
Fig. 6, Angle, Flanged, Regular.....	3 25	3 85	4 80	7 00	9 00	12 50	17 00	19 50	29 00
Fig. 502, Cross, Flanged, Regular	.....	.....	.....	9 00	11 75	16 50	22 00	27 50	40 00

IRON BODY BRASS MOUNTED VALVES

GLOBE, ANGLE, AND CROSS

Dimensions refer to valves on pages 120 and 121.



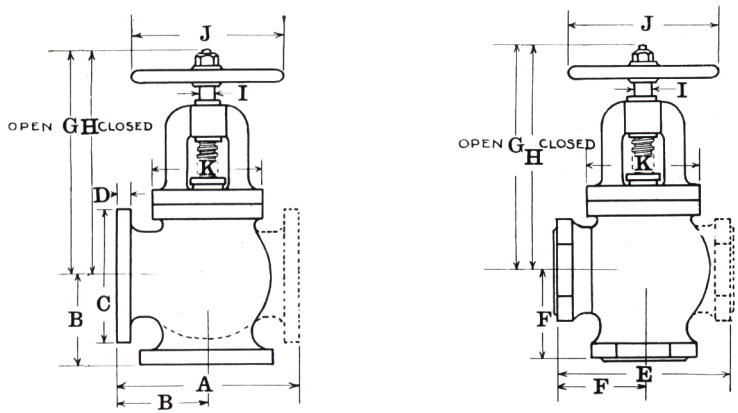
DIMENSIONS

Size of Valve ..... Inches	1¼	1½	2	2½	3	3½	4	4½
A Face to face, Flanged Globe	5¾	7 9/16	7⅞	9¼	10	11¼	11⅝
B Center to face of inlet or outlet, Flanged, Angle	2½	3 1/16	4½	4 13/16	5⅜	5¾	6⅜
C Diameter of Flange	5	6	7	7½	8½	9	9¼
D Thickness of Flange	9/16	⅝	11/16	¾	13/16	15/16	15/16
E Face to face, Screwed, Globe	4 13/16	5¾	7 9/16	7⅞	9¼	10	11¼	11⅝
F Center to face of inlet or outlet, Screwed, Angle	2	2½	3 1/16	4½	4 13/16	5⅜	5¾	6⅜
G Center to top of stem when open, Globe	5⅝	6¼	8½	9¾	11¼	13	13½	15¼
G Center to top of stem when open, Angle	5⅜	6⅝	7⅜	9⅛	10½	12	12⅞	14
H Center to top of stem when closed, Globe	5	5¾	7⅝	8½	9¾	11¼	11½	13
H Center to top of stem when closed, Angle	4¾	5⅝	6	8⅛	9	10	11⅛	12
I Diameter of Stem	½	9/16	⅝	¾	13/16	1	1	1
J Diameter of Hand Wheel	3⅜	3⅞	5¼	6¼	7½	9	10	11 5/16

IRON BODY YOKE TYPE VALVES

GLOBE, ANGLE AND CROSS

Dimensions refer to valves on pages 124 and 125.

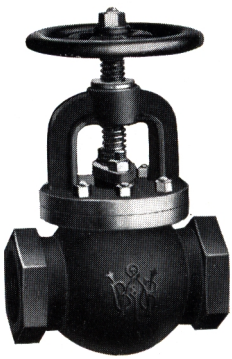


DIMENSIONS

Size of Valve ..... Inches	1½	2	2½	3	3½	4	4½	5	6	7	8
A Face to face, Flanged, Globe	5¾	7 9/16	7⅞	9¼	10	11¼	11⅝	12⅜	15	18¼	18¾
B Center to face of inlet or outlet, Flanged Angle		3 15/16	4½	4 13/16	5⅜	5¾	6⅜	6 13/16	7½	8⅝	9 7/16
C Diameter of Flange	5	6	7	7½	8½	9	9¼	10	11	12½	13½
D Thickness of Flange	9/16	5/8	11/16	¾	13/16	15/16	1 1/16	1 1/16	1	1 1/16	1⅛
E Face to face, Screwed, Globe	5¾	7 9/16	7⅞	9¼	10	11¼	11⅝	12⅜	15	18¼	18¾
F Center to face of inlet or outlet, Screwed, Angle		3 15/16	4½	4 13/16	5⅜	5¾	6⅜	6 13/16	7½	8⅝	9 7/16
G Center to top of stem when open, Globe		10	11 5/16	13⅛	14	14¾	18	18⅜	19¼	22	23
G Center to top of stem when open, Angle		10	11	12	12	14⅝	17	21	20⅝	20¾	24⅞
H Center to top of stem when closed, Globe		8½	10	11	11¾	12½	15¼	15⅝	16½	19	19¾
H Center to top of stem when closed, Angle,		9½	9½	11	11	12¼	14½	18½	18¾	18⅝	21
I Diameter of Stem	11/16	¾	1⅛	1⅛	1⅛	1⅛	1 7/16	1 7/16	1 7/16	1 11/16	1 11/16
J Diameter of Hand Wheel		5¼	6¼	7½	9	10	11 5/16	11 5/16	12⅝	14	15¾
K Diam. of Body and Yoke Flange		4 7/16	5 27/32	6 9/16	6 9/16	7 7/16	8 3/16	9 3/64	10½	12⅛	14 1/16
Face to face, Flanged Globe, extra heavy	6¼	7⅝	8¾	10⅞	10½	11 13/16	12⅜	13¼	15⅝	17¼	18¾
Center to face, Flanged Angle, extra heavy		4⅝	5¼	5¾	6 3/16	6¾	7 1/16	7⅜	8 3/16	9	9⅝
Diameter of Flange, extra heavy	6	6½	7½	8¼	9	10	10½	11	12½	14	15
Thickness of Flange, extra heavy	13/16	⅞	1	1⅛	1 3/16	1¼	1 5/16	1⅜	1 7/16	1½	1⅝

IRON BODY YOKE TYPE VALVES

Regular Pattern for Working Pressures up to 125 lbs.



GLOBE
Fig. 3

ANGLE
Fig. 7

WE recommend the Iron Body Yoke Type Valve particularly for the larger sizes. It is carefully designed and properly built so that the strains and stresses are very evenly distributed.

On the larger sizes, from 2½" and up, the yoke is held to the body with cold-rolled steel studs and cold-pressed nuts. A corrugated copper gasket is used between the flanges connecting the body and the yoke.

These valves will be made to pack under pressure when ordered, for which an extra charge will be made.

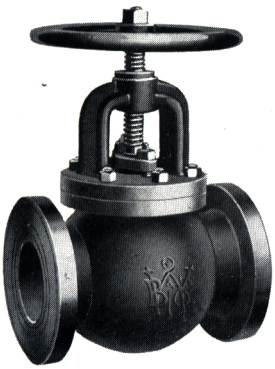
For general dimensions, see page 123.

PRICE LIST

Size ..... Inches	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8
Fig. 3, Globe, Screwed Yoke Type	5 50	6 00	7 00	9 00	12 50	15 25	19 00	24 00	27 00	37 50	63 00	72 00
Fig. 7, Angle, Screwed Yoke Type	5 50	6 00	7 00	9 00	12 50	15 25	19 00	24 00	27 00	37 50	63 00	72 00
Fig. 503, Cross, Screwed Yoke Type	.....	.....	10 00	12 00	16 25	20 00	23 50	30 65	35 25	47 25	78 00	92 00
Fig. 504, Globe, J. D. Yoke Type.....	.....	.....	10 00	12 00	16 75	19 50	24 00	32 00	40 00	48 00	80 00	90 00
Fig. 505, Angle, J.D.	.....	.....	10 00	12 00	16 75	19 50	24 00	32 00	40 00	48 00	80 00	90 00
Fig. 506, Cross, J.D.	.....	.....	13 00	16 00	21 00	26 00	30 00	42 00	45 00	58 00	90 00	100 00
Extra for finished wheel	.....	.....	1 00	1 25	1 50	2 00	2 50	3 00	3 00	4 00	5 50	7 50

IRON BODY YOKE TYPE VALVES

Regular Pattern for Working Pressures up to 125 lbs.
Extra Heavy Pattern for Working Pressures up to 250 lbs.



REGULAR, Fig. 4
EXTRA HEAVY, Fig. 518

REGULAR, Fig. 8
EXTRA HEAVY, Fig. 519

THE Iron Body Yoke Type Valve is built with flanges as well as screwed ends. The yoke is firmly held to the body by cold-rolled steel studs and nuts.

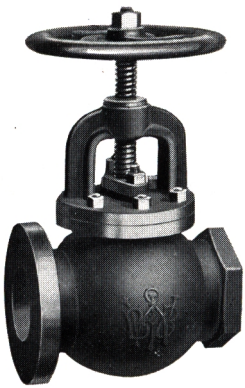
For general dimensions, see page 123.

PRICE LIST

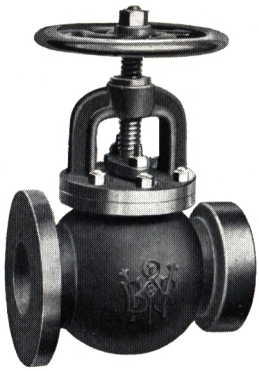
Size .....Inches	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8
Fig. 4, Globe, Flg'd, Regular	7 00	7 50	8 60	10 75	15 00	18 50	22 50	27 50	31 00	42 00	68 00	77 00
Fig. 8, Angle, Flg'd, Regular	7 00	7 50	8 60	10 75	15 00	18 50	22 50	27 50	31 00	42 00	68 00	77 00
Fig. 517, Cross, Flg'd, Regular	.....	.....	11 00	14 50	20 00	25 00	28 50	36 00	41 00	54 00	85 00	100 00
Fig. 518, Globe, Flg'd, Ex. Heavy	12 50	14 00	15 30	16 30	18 50	22 50	26 00	32 50	40 00	49 00	80 00	91 00
Fig. 519, Angle, Flg'd, Ex. Heavy	12 50	14 00	15 30	16 30	18 50	22 50	26 00	32 50	40 00	49 00	80 00	91 00
Fig. 520, Cross, Flg'd, Ex. Heavy	.....	.....	22 00	25 00	31 00	37 00	43 00	52 00	60 00	72 00	107 00	122 00
Fig. 521, J. D. Globe, Flanged....	.....	.....	11 75	14 00	18 50	21 50	26 00	34 00	42 00	50 00	80 00	90 00
Fig. 522, J. D. Angle, Flanged....	.....	.....	11 75	14 00	18 50	21 50	26 00	34 00	42 00	50 00	80 00	90 00
Fig. 523, J. D. Cross, Flanged....	.....	.....	15 00	19 00	24 00	29 00	33 00	45 00	48 00	62 00	.....	.....
Extra for finished wheel.....	.....	.....	1 00	1 25	1 50	2 00	2 50	3 00	3 00	4 00	5 50	7 50

IRON BODY THROTTLE VALVES

Regular Pattern for Working Pressures up to 125 lbs.
Extra Heavy Pattern for Working Pressures up to 250 lbs.



FLANGED AND SCREWED
Regular, Fig. 9
Extra Heavy, Fig. 507



FLANGED AND BEADED
Regular, Fig. 10
Extra Heavy, Fig. 508

FIGURES 9 and 10 are special valves made for particular users to meet a special need. Our complete equipment and the experience gained in forty years of valve building, have enabled us to meet the demands of our customers for specially designed valves. We will be glad to quote on your requirements from blueprints or samples, and can assure you of a minimum estimate.

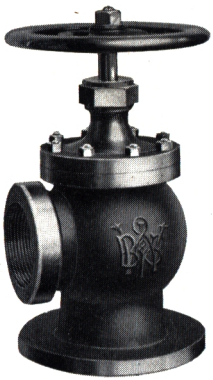
The Yoke Type Valves shown here have the regular renewable brass disc and seat, the same yoke and stem is used, the only difference in design from those on the preceding pages being the connection ends. Cold-rolled steel studs and nuts secure a tight joint between the yoke and body.

PRICE LIST

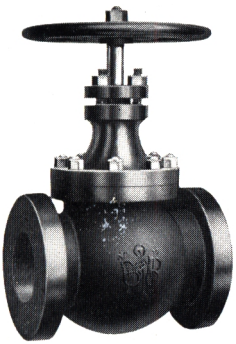
Size .....Inches	2	2½	3	3½	4	4½	5	6	7	8	9	10
Fig. 9, Screwed and Fl'g'd, Reg'r	7 80	9 90	13 80	16 90	20 75	25 75	29 00	39 75	65 00	74 50	105 00	120 00
Fig. 10, Flanged and Beaded, Reg.	8 60	10 75	15 00	18 50	22 50	27 50	31 00	42 00	68 00	77 00	110 00	123 00
Fig. 507, Screwed and Flanged, Ex. Heavy	15 30	16 30	18 50	22 50	26 00	32 50	40 00	49 00	80 00	91 00	130 00	145 00
Fig. 508, Flanged and Beaded, Ex. Heavy	15 30	16 30	18 50	22 50	26 00	32 50	40 00	49 00	80 00	91 00	130 00	145 00
Extra for finished wheel.....	1 00	1 25	1 50	2 00	2 50	3 00	3 00	4 00	5 50	7 50	10 00	10 00

IRON BODY THROTTLE VALVES

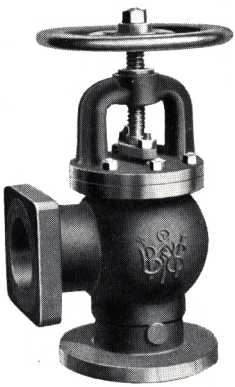
Regular Pattern for Working Pressures up to 125 lbs.
Extra Heavy Pattern for Working Pressures up to 250 lbs.



REGULAR, Fig. 12
EXTRA HEAVY, Fig. 510



REGULAR, Fig. 11
EXTRA HEAVY, Fig. 509



REGULAR, Fig. 13

FIG. 11 is another valve of special design for high-pressure work. This style valve is packed with a gland and the stuffing-box is firmly held against the cap. A corrugated copper gasket is used between the flanges connecting the body and the yoke. This insures an absolutely steam-tight connection.

Fig. 12 has a beaded outlet and flanged inlet. The cap is finished cast iron and is held to the body similar to Fig. 11. This valve is packed with a gland and has brass stuffing-box which screws onto the cap.

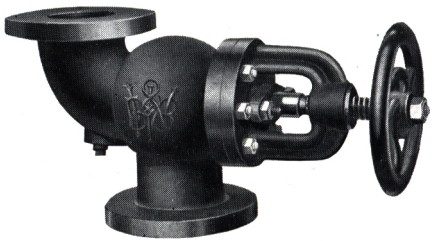
Fig. 13 is a special throttle valve of the yoke type. It has a round inlet flange and a square outlet flange. The principle of the valve is the same as the other yoke type valves.

PRICE LIST

Size ..... Inches	2	2½	3	3½	4	4½	5	6	7	8
Fig. 11, Globe, Flanged, Regular	18 00	20 00	22 00	25 00	29 00	35 00	41 00	58 00	75 00	110 00
Fig. 12, Angle, Flanged and Beaded, Regular	18 00	20 00	22 00	25 00	29 00	35 00	41 00	58 00	75 00	110 00
Fig. 13, Angle, Round Inlet Flange, Square Outlet Flange	.....	.....	15 00	18 50	22 50	27 50	31 00	42 00	68 00	77 00
Fig. 509, Globe, Flanged, Extra Heavy	18 00	20 00	22 00	25 00	29 00	35 00	41 00	58 00	75 00	110 00
Fig. 510, Angle, Flanged and Beaded, Extra Heavy	18 00	20 00	22 00	25 00	29 00	35 00	41 00	58 00	75 00	110 00
Extra for finished wheel.....	1 00	1 25	1 50	2 00	2 50	3 00	3 00	4 00	5 50	7 50

IRON BODY ELBOW THROTTLE VALVES

Regular Pattern for Working Pressures up to 125 lbs.
Extra Heavy Pattern for Working Pressures up to 250 lbs.

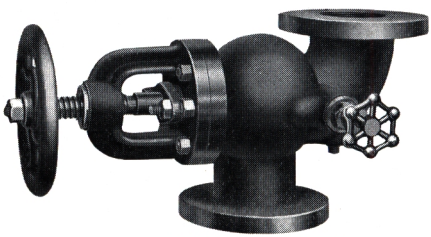


REGULAR, Fig. 511

THE Buckeye Iron Body Elbow Throttle Valve is built for high-pressure work.

The body is strongly constructed with either regular or extra heavy flanges. This style valve is also made with beaded inlet.

The yoke type fittings give the valve strength and durability. Cold-rolled studs and cold-pressed nuts secure a tight joint between the yoke and body, and the brass bushing at the top of the yoke guides the disc to a firm seating.



REGULAR, Fig. 511

This valve is packed with a gland, and when ordered will be made to pack under pressure, for which an extra charge will be made.

If By-Pass Valve is wanted, order should specify whether it is wanted on the right or left-hand side.

Order should also give specifications regarding stem. Steel stem is furnished regularly, but brass stem will be supplied if ordered.

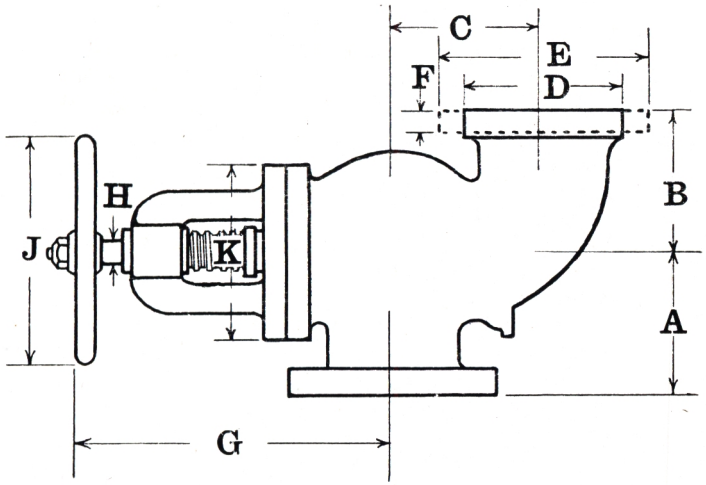
General dimensions are listed on opposite page.

PRICE LIST

Size ..... Inches	2	2½	3	3½	4	4½	5	6	7	8	10	12
Fig. 511, Fl'g'd, Regular	13 00	15 00	16 00	18 00	20 00	28 00	38 00	50 00	67 00	100 00	175 00	250 00
Fig. 15, Flang'd & Beaded, Reg..	13 00	15 00	16 00	18 00	20 00	28 00	38 00	50 00	67 00	100 00	175 00	250 00
Fig. 512, Fl'g'd, Extra Heavy.....	18 00	20 00	22 00	25 00	29 00	35 00	45 00	58 00	75 00	110 00	200 00	275 00
Extra for By-Pass	5 00	5 00	6 00	6 00	7 00	7 00	7 00	8 00	8 00	10 00	15 00	15 00
Extra for Pilot Wheel	.....	.....	.....	.....	6 00	6 00	6 00	7 00	8 00	9 00	11 00	12 00

IRON BODY ELBOW THROTTLE VALVE

Dimensions refer to valves on page 128.



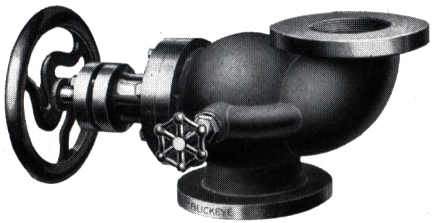
DIMENSIONS

Size of Valve ..... Inches	2	2½	3	3½	4	4½	5	6	7	8	9	10
A Center of body to face of Flange inlet	3 3/8	3 1 3/16	4 5/8	4 15/16	5 11/16	5 3/16	6 5/8	7 7/16	7 5/16	8 5/16	9 3/4	10 1/4
B Center of body to face of Flange outlet	4 1/8	5	5 7/16	5 1/2	6 1/16	6 1/2	6 15/16	9	9 1/2	10 13/16	11 11/16	11 3/16
C Center of inlet to center of outlet	3 1/16	4 3/16	5	5 3/8	6 1/8	6 7/8	7 7/16	8 3/16	9 15/16	11 1/4	12 3/8	13 1/2
D Diameter of bead	3 7/8	4 9/16	5 3/8	5 7/8	6 3/4	7 1/4	8 1/16	9 3/8	10 5/16	11 5/8	13 1/4	14 3/8
E Diameter of Flange	6	7	7 1/2	8 1/2	9	9 1/4	10	11	12 1/2	13 1/2	15	16
F Thickness of Flange	5/8	11/16	3/4	13/16	15/16	15/16	15/16	1	1 1/16	1 1/8	1 1/8	1 3/16
G Center of body to top of wheel	9 1/2	10 7/8	11	11 3/8	12 1/4	14 1/2	18 1/2	18 3/4	18 5/8	21	23 3/4	24 1/4
H Diameter of stem	5/8	3/4	13/16	1	1	1	1	1	1 1/16	1 1/16	1 7/8	1 7/8
J Diameter of hand wheel	5 1/4	6 1/4	7 1/2	9	10	11 5/16	11 5/16	12 5/8	14	15 3/4	.....	.....
K Diameter of body and yoke flange	4 7/16	5 37/32	6 9/16	6 9/16	7 7/16	8 3/16	9 3/64	10 1/2	12 1/8	14 1/16	15 3/4	16 9/16
Center of body to face of inlet, Extra Heavy	3 3/8	4	5	5 5/16	6	6 9/16	7 1/16	7 7/8	7 11/16	8 15/16	10 1/8	11
Center of body to face of outlet, Extra Heavy	4 1/8	5 5/16	5 13/16	5 7/8	6 3/8	6 7/8	7 3/8	9 7/16	8 11/16	11 5/16	12 5/8	12 7/8
Diam. of flange, Extra Heavy	6 1/2	7 1/2	8 1/4	9	10	10 1/2	11	12 1/2	14	15	16 3/4	18 1/4
Thickness of Flange, extra Heavy	7/8	1	1 1/8	1 3/16	1 1/4	1 5/16	1 3/8	1 7/16	1 1/2	1 5/8	1 3/4	1 7/8

IRON BODY ELBOW THROTTLE VALVES

Regular Pattern for Working Pressures up to 125 lbs.
Extra Heavy Pattern for Working Pressures up to 250 lbs.

THE valve shown here is somewhat similar in principle and design to those shown on the preceding page. The body will be made with both ends flanged either standard or extra heavy, or it will be built with beaded inlet and flanged outlet in either standard or extra heavy.



WITH BY-PASS, REGULAR
Fig. 18

The cast iron cap on this valve is of the same design as that on Fig. 11. It is held to the body by eight cold-rolled steel studs and nuts which make the joint absolutely tight. A corrugated copper gasket, inserted between the flanges, is further assurance against leaking.

WITHOUT BY-PASS, REGULAR
Fig. 17

The stuffing-box is held to the cap with studs and nuts, and this valve can be relied upon for good service.

The seat and disc are of brass. The seat screws into the diaphragm and can be removed and replaced when worn.

Steel stem is furnished regularly, but a brass stem will be supplied at an extra charge when ordered. We are also ready to give an extra long stem when ordered.

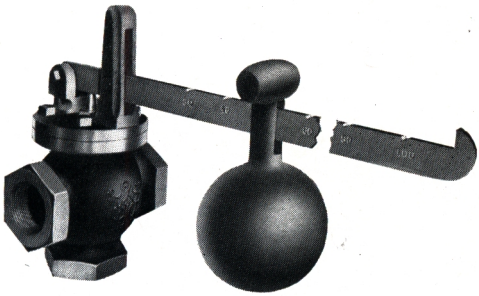
Customer's order should give full specifications regarding by-pass, stem, wheel, flanges, etc.

Prices furnished on application.

IRON BODY SAFETY VALVE

Regular Pattern for Working Pressures up to 125 lbs.

THE Buckeye Iron Body Safety Valves are made in either the screwed or flanged pattern. A yoke held by cold-rolled steel studs and nuts, fits onto the body and supports the lever and weight.



SAFETY VALVE, SCREWED
Fig. 25

The valve can be adjusted to blow off at any point from 30 to 100 pounds by setting the weight at the desired place on the lever. When so ordered, the valve will be adjusted to be used for greater pressures.

SAFETY VALVE, FLANGED
Fig. 26

When the bronze disc is forced from its seat, the pin is lifted, raising the lever. As the excessive steam pressure is reduced to normal, the valve closes automatically.

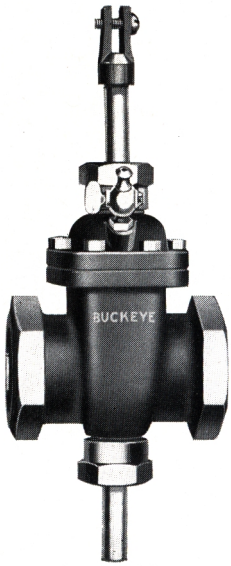
The safety valve body, yoke, and weight are cast iron, the lever is wrought iron, and the disc, nut, pin and seat are of brass.

PRICE LIST

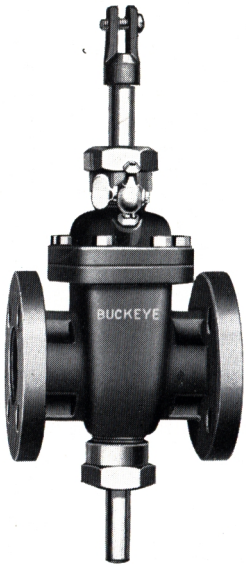
Size .....Inches	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8
Fig. 25, Screwed, Regular	5 00	5 80	7 80	13 25	17 25	23 00	28 75	34 50	41 50	57 75	93 50	132 00
Fig. 26, Flanged, Regular	.....	.....	10 25	16 00	21 50	27 50	34 00	40 00	48 00	65 00	100 00	140 00

IRON BODY QUICK-OPENING THROTTLE VALVE

Regular Pattern for Working Pressures up to 125 lbs.



THROTTLE VALVE, SCREWED
Fig. 515



THROTTLE VALVE, FLANGED
Fig. 516

THE Buckeye Iron Body Throttle Valve is made on the same principle as the brass throttle valve, Fig. 165, on page 42. It is made with flanged or screw ends in two sizes—2″ and 2½″. The body is a well-proportioned iron casting. A cast iron cap, rectangular in shape, is held to the body by eight bolts.

The brass discs have a ball-and-socket joint which insures perfect seating on the iron seats. They are carried by the brass stem and disc carrier, which is guided by ribs on each side of the body.

A brass stuffing-box and gland on the top and bottom of the valve make it absolutely leak-proof.

For general dimensions, see opposite page.

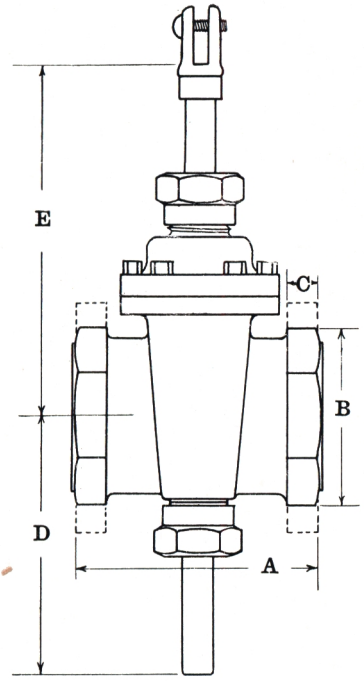
PRICE LIST

Size ..... Inches	2	2½
Fig. 515, Screwed	20 00	25 00
Fig. 516, Flanged	25 00	30 00

IRON BODY QUICK-OPENING THROTTLE VALVE

SCREWED AND FLANGED

Dimensions below refer to valves on page 132.

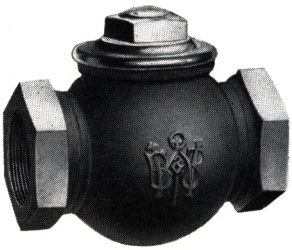


DIMENSIONS

Size of Valve ..... Inches	2	2½
A Face to face, flange ends	6	7
B Diameter of Flanges	5⅜	5⅞
C Thickness of flanges	⅝	⅝
A Face to face, Screwed Ends	6	7⅛
D Center of port to bottom of stem	6	7⅛
E Center of port to top of stem	8⅜	9½

IRON BODY CHECK VALVES

Regular Pattern for Working Pressures up to 125 lbs.



HORIZONTAL
Fig. 21

ANGLE
Fig. 23

THE Buckeye Iron Body Check Valves are made in the horizontal and angle patterns. The body of cast iron is well proportioned with a proper distribution of strength to resist all strains and stresses. The cap, disc and seat are of brass. The seat screws into the diaphragm and can be removed and replaced when worn. The disc is made with three wings below the seating surface and a brass stem above. The cap is cast with a bridge through which the stem acts and is guided. The wings on the lower part of the disc also serve to guide its proper movement. A sufficient lift is allowed when the valve is open to give a passage-way equal to the area of the connecting pipe.

When specified, British Standard Pipe Thread will be furnished without extra charge.

For general dimensions, see page 122.

PRICE LIST

Size ..... Inches	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7
Fig. 21, Hor., Screwed	1 50	2 20	2 65	4 00	6 50	8 00	12 25	14 25	19 00	22 00	30 00	45 00
Fig. 23, Angle, Screwed..	1 50	2 20	2 65	4 00	6 50	8 00	12 25	14 25	19 00	22 00	30 00	45 00

IRON BODY CHECK VALVES

Regular Pattern for Working Pressures up to 125 lbs.
Extra Heavy Pattern for Working Pressures up to 250 lbs.

HORIZONTAL
Regular, Fig. 22
Extra Heavy, Fig. 513

ANGLE
Regular, Fig. 24
Extra Heavy, Fig. 514

THE Buckeye Iron Body Horizontal and Angle Check Valves are built with flanged ends as well as screwed ends. Otherwise the valves shown here are the same as those on the preceding page. The cast iron body is made with either standard or extra heavy flanges. Flanges will not be drilled unless order specifies drilling.

The diameter of flanges of our standard valves and flange fittings is the same as those recommended by the American Society of Mechanical Engineers. It is suggested, however, that customers give as much detail as possible on their orders as to flange dimensions wanted and drilling specifications.

For general dimensions, see page 122.

PRICE LIST

Size ..... Inches	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7
Fig. 22, Horizontal, Flanged, Regular	2 50	3 25	4 00	5 25	8 25	11 50	15 50	18 00	22 50	26 00	35 00	50 00
Fig. 24, Angle, Flanged, Regular	2 50	3 25	4 00	5 25	8 25	11 50	15 50	18 00	22 50	26 00	35 00	50 00
Fig. 513, Horizontal, Flanged, Extra Heavy	.....	.....	.....	10 00	12 80	14 50	18 00	21 50	25 50	32 00	38 00	61 50
Fig. 514, Angle, Flanged, Extra Heavy	.....	.....	.....	10 00	12 80	14 50	18 00	21 50	25 50	32 00	38 00	61 50

IRON BODY "Y" BLOW-OFF VALVE

"Y" BLOW-OFF, IRON CAP
Fig. 527

"Y" BLOW-OFF, YOKE TYPE
Fig. 524

THE Buckeye Iron Body "Y" Blow-Off Valve is made in two styles, one with iron cap and the other with yoke. Both are constructed so that the disc is lifted out of the direct passage when the valve is opened. A direct blow-off is thus provided.

In the one model, the iron cap is firmly held to the body by studs and nuts. In the other model, an iron yoke replaces the iron cap and the steel stem is guided by this in its movement.

Either of these models can be supplied with brass or iron disc, with brass or iron seat, or with Jenkins Composition Disc and brass seat. When ordering, be sure to state the kind of disc and seat wanted.

Every valve is tested under hydraulic pressure before leaving our factory.

PRICE LIST

Size of Valve ..... Inches	1¼	1½	2	2½	3
Face to face, Screw Ends	6½	6⅞	8¼	10¼	
Fig. 524, Yoke Type, Iron Seat, Iron Disc	8 00	9 00	10 40	14 80	20 00
Fig. 525, Yoke Type, Brass Seat, Brass Disc	8 00	9 00	10 40	14 80	20 00
Fig. 526, Yoke Type, Brass Seat, J. D. Disc	8 00	9 00	10 40	14 80	20 00
Fig. 527, Iron Cap Type, Iron Seat, Iron Disc	8 00	9 00	10 40	14 80	20 00
Fig. 528, Iron Cap Type, Brass Seat, Brass Disc	8 00	9 00	10 40	14 80	20 00
Fig. 529, Iron Cap Type, Brass Seat, J. D. Disc	8 00	9 00	10 40	14 80	20 00

IRON PILOT WHEEL

THE Iron Pilot Wheel is furnished as a special wheel to be used on valves 4″ to 12″. When ordered with valve a special price will be quoted. The price listed below is for wheel when ordered separately.

The edge of the wheel and the five handles are polished, giving it a neat, clean appearance.

Fig. 533

PRICE LIST

Size ..... Inches	4	4½	5	6	7	8	9	10	12
Diameter of Wheel ..... Inches	10⅝	12	12	13¾	14⅝	16½	18	18	20½
Fig. 533, Pilot Wheel	8 00	9 00	9 00	10 50	12 00	14 00	17 00	17 00	20 00

IRON BODY WHISTLE VALVE

WHISTLE VALVE
Fig. 27

THE Buckeye Iron Body Whistle Valve is constructed on the same principle as the brass whistle valve shown on page 65. It is only made in sizes from 2″ to 4″.

The body and lever are of cast iron. The stem, disc, seat and cap are red brass. The lower cost of this whistle valve makes it most desirable to use with the larger size all-brass whistles shown on pages 65, 66, and 67.

PRICE LIST

Size ..... Inches	2	2½	3	3½	4
Fig. 27, Whistle Valve	10 25	16 00	21 50	27 50	34 00

IRON BODY BUTTERFLY VALVE

BUTTERFLY VALVE
Fig. 28

THE Buckeye Iron Body Butterfly Valve is used as a regulating valve for air, steam, water, or gas.

The body is of cast iron, the stem is made of steel, and the stuffing-box and disc of brass.

This valve is not made with an absolutely tight joint, due to its style of construction. It is used to regulate the flow and not to stop it.

PRICE LIST

Size of Valve ..... Inches	1	1¼	1½	2	2½
Diameter of Flange ..... Inches	.....	4½	5	6	7
Fig. 28, Butterfly Valve, Screwed	6 00	6 35	7 00	8 00	9 50
Fig. 534, Butterfly Valve, Flanged	.....	7 50	8 50	9 50	11 50
Size of Valve ..... Inches	3	3½	4	5	6
Diameter of Flange ..... Inches	7½	8½	9	10	11
Fig. 28, Butterfly Valve, Screwed	12 00	16 00	18 50	28 50	42 50
Fig. 534, Butterfly Valve, Flanged	15 00	19 00	22 00	32 00	47 00

IRON BODY FOOT VALVE AND STRAINER

THE Buckeye Iron Body Foot Valve and Strainer is attached to the end of a pipe when water is to be drawn from a river or creek. It prevents large stones from being carried into the pipe and serves as a protection in this manner.

FOOT VALVE AND STRAINER
Fig. 31

PRICE LIST

Size ..... Inches	¾	1	1¼	1½	2	2½	3
Fig. 535, Foot Valve and Strainer, Screwed	1 15	1 30	1 40	1 90	2 40	3 30	3 90
Fig. 31, Foot Valve and Strainer, Flanged	.....	.....	.....	.....	3 50	4 50	5 75
Size ..... Inches	3½	4	4½	5	6	7	8
Fig. 535, Foot Valve and Strainer, Screwed	5 00	7 30	10 50	11 25	14 75	35 00	41 00
Fig. 31, Foot Valve and Strainer, Flanged	7 50	9 50	13 00	14 00	17 50	38 00	45 00

IRON BODY EMERGENCY STOP VALVE

Fig. 530
EMERGENCY STOP VALVE

THE desire of managements to make their factories as safe as possible has led many to install the Buckeye Emergency Stop Valve. The installation of a quick-closing valve of this design has been made compulsory by law in some states.

It is not a steam-tight valve, but, like the Butterfly Valve, can be closed quickly and tightly enough to shut off the power. It is made so that it can be operated from several places in the factory, and is therefore of great value in case of accident.

The lever is so constructed and so well balanced that it can be installed in either a vertical or horizontal position by making a proper adjustment of the lever.

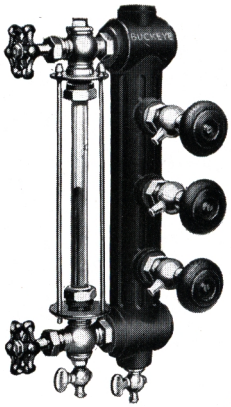
The body is of heavy cast iron, made with extra heavy flanges. The steel stem carrying the lever and weight is held to a perfect alignment by the yoke which is cast on the body. A bronze bushing in the top of the yoke prevents the stem from rusting at this point. A bronze bushing is also inserted in the stuffing-box.

PRICE LIST

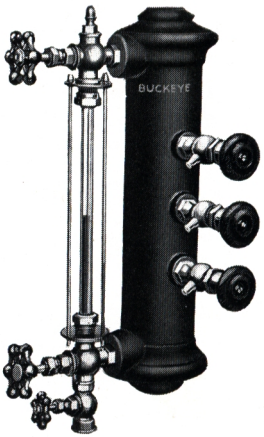
Size of Valve ..... Inches	3	3½	4	5	6	7
Fig. 530, Emergency Stop Valve with lever and weight, flanged	70 00	80 00	90 00	110 00	135 00	165 00
Face to face, flange ends ..... Inches	7½	8½	9	9½	10	10½
Diameter of flanges ..... Inches	8¼	9	10	11	12½	14
Thickness of flanges ..... Inches	1⅛	1 3/16	1¼	1⅜	1 7/16	1½
Center of port to end of lever ..... Inches	10½	11	11¼	12½	13¼	14½

IRON BODY WATER COLUMNS

For Working Pressures up to 125 lbs.



FLUTED
Fig. 29



PLAIN HEAVY
Fig. 30

THE Buckeye Iron Body Combination Water Columns are made in two styles. The fluted column shown in Fig. 29 is long and narrow. It will be furnished complete with trimmings or body only.

Fig. 30 is a plain heavy water column. It will also be furnished complete with trimmings or body only. The top of the column will be tapped for inserting siphon and water gauge.

In order to avoid any mistake, order should specify trimmings desired.

PRICE LIST

Fig. 29, No. 1 Fluted Water Column, diameter 2", length 15", tapped for ¾" Boiler Connection, Body only	3 00
Fig. 29, No. 1 Fluted Water Column, trimmed with No. 1 Water Gauge, three ½" Gauge Cocks and Air Cock	9 25
Fig. 29, No. 2 Fluted Water Column, diameter 2", length 18", tapped for ¾" Boiler Connection, Body only	3 50
Fig. 29, No. 2 Fluted Water Column, trimmed with No. 1 Water Gauge, three ½" Gauge Cocks and Air Cock	9 75
Fig. 30, No. 3 Plain Heavy Water Column, diameter 4", length 19", tapped for 1" Boiler Connection, Body only	5 00
Fig. 30, No. 3 Plain Heavy Water Column, trimmed with No. 3 Water Gauge, three ½" Gauge Cocks and Air Cock	13 50

IRON COMPANION FLANGES

STANDARD
Fig. 531

EXTRA HEAVY
Fig. 532

THE Buckeye Iron Companion Flanges conform with the Manufacturers' Standard of Flanges, adopted July 10, 1912. Flanges are accurately finished to size, and drilled to steel bushed templates, insuring exact location of bolt holes. Flanges are drilled in multiples of four so that they can be set on any quarter.

We are prepared to furnish flanges on valves, also Companion flanges of any diameter and thickness within practical limits, but we recommend the Manufacturers' 1912 Standard of Iron Flange Dimensions.

Size of Pipe	Dimensions of Flanges	Flanges Faced	Flanges Faced and Drilled	Flanges Faced, Drilled, and Spot Faced	Size of Pipe	Dimensions of Flanges	Flanges Faced	Flanges Faced and Drilled	Flanges Faced, Drilled, and Spot Faced
2	5/8 x 6	1 20	1 50	30	2	7/8 x 6 1/2	1 40	1 80	40
2 1/2	11/16 x 7	1 40	2 00	60	2 1/2	1 x 7 1/2	1 70	2 40	70
3	3/4 x 7 1/2	1 60	2 25	65	3	1 1/8 x 8 1/4	1 90	2 70	80
3 1/2	13/16 x 8 1/2	1 80	2 50	70	3 1/2	1 3/16 x 9	2 20	3 00	80
4	15/16 x 9	2 15	3 00	85	4	1 1/4 x 10	2 60	3 60	1 00
4 1/2	15/16 x 9 1/4	2 50	3 36	85	4 1/2	1 5/16 x 10 1/2	3 00	4 00	1 00
5	15/16 x 10	2 80	3 65	85	5	1 3/8 x 11	3 40	4 40	1 00
6	1 x 11	3 20	4 05	85	6	1 7/16 x 12 1/2	3 80	4 90	1 10
7	1 1/16 x 12 1/2	4 35	5 75	1 40	7	1 1/2 x 14	5 20	6 90	1 70
8	1 1/8 x 13 1/2	5 00	6 50	1 50	8	1 5/8 x 15	6 00	7 80	1 80
1	1 1/8 x 15	6 75	8 25	1 50	9	1 3/4 x 16 1/4	8 10	9 90	1 80
10	1 3/16 x 16	7 75	9 25	1 50	10	1 7/8 x 17 1/2	9 30	11 10	1 80
12	1 1/4 x 19	10 50	12 50	2 00	12	2 x 20 1/2	12 60	15 00	2 40

FLANGE DIMENSIONS FOR IRON FLANGES

TEMPLATE FOR DRILLING REGULAR AND EXTRA HEAVY FLANGES

THE list of dimensions below is known as the American Standard and is used on all Buckeye iron valves, companion flanges, etc., ordered from this catalog unless otherwise specified.

TEMPLATE FOR IRON VALVES AND IRON COMPANION FLANGES
For Working Pressures up to 125 lbs.

Size Valve, Inches	Diameter of Flanges	Thickness of Flanges	Bolt Circle	Number of Holes	Diameter of Bolts
1½	5	9/16	3⅞	4	½
2	6	5/8	4¾	4	5/8
2½	7	11/16	5½	4	5/8
3	7½	¾	6	4	5/8
3½	8½	13/16	7	4	5/8
4	9	15/16	7½	8	5/8
4½	9¼	15/16	7¾	8	¾
5	10	15/16	8½	8	¾
6	11	1	9½	8	¾
7	12½	1 1/16	10¾	8	¾
8	13½	1⅛	11¾	8	¾
9	15	1⅛	13¼	12	¾
10	16	1 3/16	14¼	12	⅞
12	19	1¼	17	12	⅞

TEMPLATE FOR IRON VALVES AND IRON COMPANION FLANGES
For Working Pressures up to 250 lbs.

Size Valve, Inches	Diameter of Flanges	Thickness of Flanges	Bolt Circle	Number of Holes	Diameter of Bolts
1½	6	13/16	4½	4	5/8
2	6½	⅞	5	4	5/8
2½	7½	1	5⅞	4	¾
3	8¼	1⅛	6⅝	8	¾
3½	9	1 3/16	7¼	8	¾
4	10	1¼	7⅞	8	¾
4½	10½	1 5/16	8½	8	¾
5	11	1⅜	9¼	8	¾
6	12½	1 7/16	10⅝	12	¾
7	14	1½	11⅞	12	⅞
8	15	1⅝	13	12	⅞
9	16¼	1¾	14	12	1
10	17½	1⅞	15¼	16	1
12	20½	2	17¾	16	1⅛

GOVERNMENT
VALVES

GOVERNMENT VALVES

SPECIAL VALVES MADE FOR USE BY THE UNITED STATES NAVY

THE United States Government is one of the largest users of brass and iron valves in the world. We are continually furnishing material to the Government either directly or indirectly.

In order to give some idea of the work done for the Government, we are showing pictures of some of the larger valves, together with a brief description of each.

EIGHT-INCH MARINE ENGINE THROTTLE VALVE

FIGURES A and B show the Eight-Inch Marine Engine Throttle Valve used on some of our largest ships. This valve is carefully built to Government specifications. The body is usually cast of high-grade charcoal iron but will be made of steel if ordered. A butterfly stop is built into the inlet to be used as an emergency valve for quick action. It does not furnish an absolutely steam-tight joint, but offers enough resistance to the flow of steam to stop an engine when loaded. The butterfly wing is hard Government bronze carefully machined and set in a perfect balance on the stem of cold-rolled steel. The stuffing-box is cast from the same bronze mixture as is used for the wing.

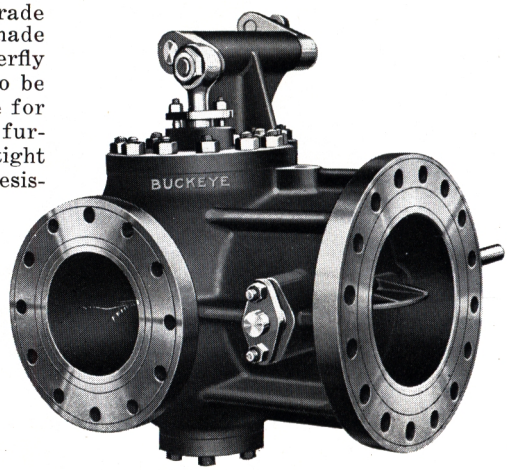


FIGURE A

A steel operating stem running through the bracket on the top of the valve has a drop-forged lug keyed to it at each end. The stem attached, which carries the discs, is also a drop forging. There are two seats in the body, an upper and a lower seat, and when the valve is opened the steam passes through evenly, keeping a good balance without causing much wear. The opening at the side provides for an 1½″ by-pass.

The body is given a test of 750 pounds hydrostatic pressure as soon as the machine work on it is completed. After assembly has been made,

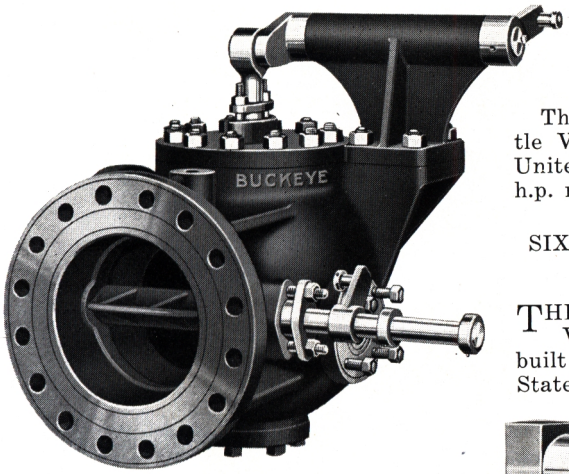


FIGURE B

marine engine. The very best grade of charcoal iron is used in the body casting. The flanges are of extra heavy dimensions and machined to a very fine finish. The bonnet or top of the valve, cast from the same alloy as the body, is held to the valve body by eight cold-rolled steel studs and nuts. The bracket of very strong design is cast in one piece with the bonnet, and a cold-rolled steel stem operating through the bracket connects with the brass stem which carries the disc.

This valve, like the eight-inch valve, is designed with two the completed valve is given a test of 450 pounds hydrostatic pressure.

This Eight-Inch Throttle Valve is used on the United States Navy 2800 h.p. marine engine.

SIX-INCH THROTTLE VALVE

THE Six-Inch Throttle Valve, Figure C, is built for use on the United States Navy 1400 h.p.

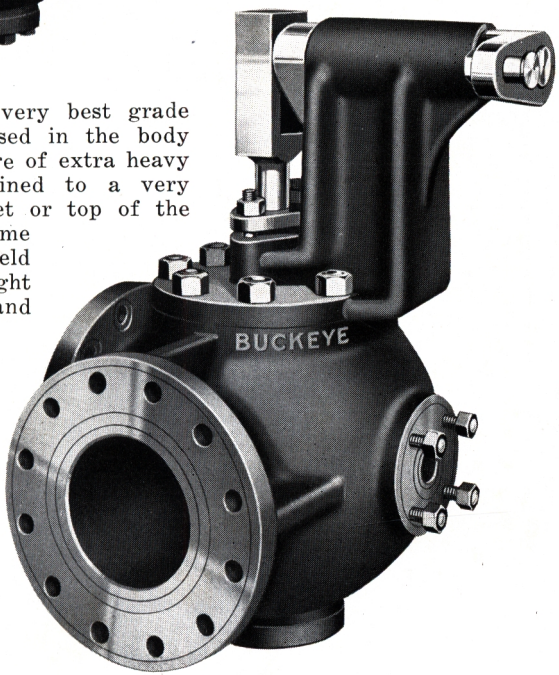


FIGURE C

seats to preserve a good balance as the steam is admitted. The discs, however, are cast iron and made in one piece. Brass rings are inserted in the diaphragms and the discs and seats are ground to a steam-tight fit. The opening on the side provides for an 1½" by-pass.

This valve is subjected to the same severe tests as the eight-inch valve. The body casting is tested to 750 pounds hydrostatic pressure as soon as the machine work is completed. Another test is made after the valve is assembled and ready for shipment, the assembled valve being tested to 450 pounds hydrostatic pressure.

TUG-BOAT ENGINE THROTTLE VALVE

THE Government Tug-Boat Engine Throttle Valve, Figure D, is, as its name indicates, for use on Government tug-boats. It differs somewhat in appearance and construction from the eight and six-inch throttle valves. The same alloy of charcoal iron is used in the body casting, and the flanges are of heavy dimensions. The bracket is also cast in one piece with the bonnet. All parts of the valve are cast iron except the crosshead and the gland or stuffing-box. The disc of cast iron is cylindrical in shape. One bull ring and two split rings fit onto the disc and serve to make the valve steam-tight. The steel stem which carries the disc screws into the brass crosshead and is firmly held by the steel taper pin. The opening at the side provides for an 1½" by-pass.

This valve is given a very severe steam pressure test to make certain its steam-tight fit.

These are some of the largest valves which the Government uses. We also furnish a great many brass valves in the smaller sizes.

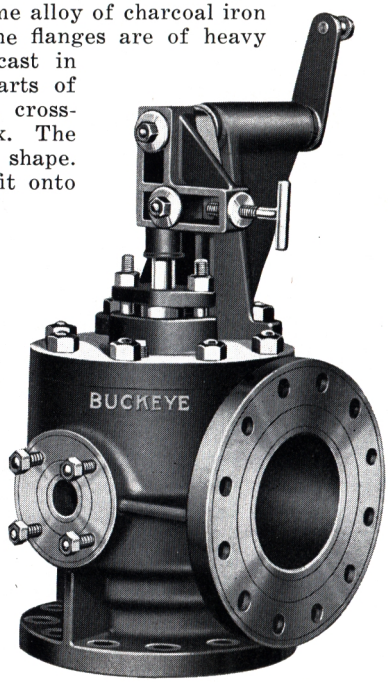


FIGURE D

USEFUL DATA AND TABLES

METRIC AND ENGLISH CONVERSION TABLE

1 millimeter = .03937 inch
1 millimeter = 1/25 inch (nearly)
1 centimeter = .3937 inch
1 meter = 39.37 inches
1 kilometer = .62137 mile
1 foot = .3048
1 inch = 2.54 centimeters
1 inch = 25.4 millimeters

MISCELLANEOUS CONVERSION FACTORS

1 kilogram per meter = .6720 pounds per foot.
1 gram per square millimeter = 1.422 pounds per square inch.
1 kilogram per square meter = 0.2084 pounds per square inch.
1 kilogram per cubic meter = .0624 pounds per cubic foot.
1 degree Centigrade = 1.8 degrees Fahrenheit.
1 pound per foot = 1.488 kilograms per meter.
1 pound per square foot = 4.882 kilograms per square meter.
1 degree Fahrenheit = .5556 degrees Centigrade.
1 calorie (French thermal unit) = 3.968 B.T.U. (British thermal unit).

1 horsepower = { 33,000 foot-pounds per minute.
746 watts.

1 watt = { .00134 horsepower.
44.24 foot-pounds per minute.

1 kilowatt = { 1000 watts.
1.34 horsepower
44,240 foot-pounds per minute.

SHRINKAGE OF CASTINGS

Aluminum	.2031 inch per foot
Brass	.1670 inch per foot
Copper	.1875 inch per foot
Bismuth	.1563 inch per foot
Lead	.3125 inch per foot
Zinc	.3125 inch per foot
Cast Iron	.1250 inch per foot

PROPORTIONATE WEIGHT OF CASTINGS TO WOOD PATTERN

A pattern weighing 1 pound made of (Less weight of core prints)	Cast Iron	Brass	Copper	Bronze	Bell Metal	Zinc
Pine or Fir	16	18.8	19.7	19.3	17	15.5
Oak	9	10.1	10.4	10.3	10.9	8.6
Linden	13.4	15.1	16.7	15.5	16.3	12.9
Pear	10.2	11.5	11.9	11.8	12.4	9.8
Birch	10.6	11.9	12.3	12.2	12.9	10.2
Alder	12.8	14.3	14.9	14.7	15.5	12.2
Mahogany	11.7	13.2	13.7	13.5	14.2	11.2
Brass	0.85	0.95	0.99	0.98	1.0	0.8

PROPERTIES OF METALS

METAL	Melting Point	Wt. per Cu. In.	Wt. per Cu. Ft.	Specific Gravity
Aluminum	1157	.0924	159.63	2.56
Antimony	1130	.2424	418.86	6.71
Bismuth	505	.354	611.76	9.83
Brass, Cast	1692	.3029	523.2	8.393
Bronze	1692	.319	550	8.83
Chromium	3500	.2457	429.49	6.8
Cobalt	2732	.307	530.6	8.5
Copper	1929	.322	556	8.9
Gold	1965	.6979	1206.05	19.32
Iridium	3992	.8099	1400	22.42
Iron, Cast	2700	.26	450	7.21
Iron, Wrought	2920	.278	480.13	7.7
Lead	618	.41	710	11.37
Manganese	3452	.289	499.4	8
Mercury	–39	.4909	848.35	13.59
Nickel	2700	.3179	549.74	8.8
Platinum	3227	.7769	1342.13	21.5
Silver	1733	.3805	657.33	10.53
Steel, Cast	2452	.28	481.2	7.81
Steel, Rolled	2600	.2833	489.6	7.854
Tin	445	.2634	455.08	7.29
Tungsten	3600	.69	1192.3	19.10
Vanadium	3230	.1987	343.34	5.50
Zinc	779	.245	430	6.86

TABLE OF EMERY WHEEL SPEEDS

THE following table designates number of revolutions per minute for specified diameters of wheels, to cause them to run at the respective periphery rates of 4000, 5000, and 6000 feet per minute.

The medium of 5000 feet is usually employed in ordinary work, but in special cases it is sometimes desirable to run them at a lower or higher rate according to requirements.

The stress on the wheel at 4000 feet periphery speed per minute, is 48 pounds per square inch; at 5000 feet, 75 pounds; at 6000 feet, 108 pounds.

Diameter Wheel in Inches	Revolutions per Minute for Surface Speed of		
	4,000 ft.	5,000 ft.	6,000 ft.
1	15,279	19,099	22,918
2	7,639	9,549	11,459
3	5,093	6,366	7,639
4	3,820	4,775	5,730
5	3,056	3,820	4,584
6	2,546	3,183	3,820
7	2,183	2,728	3,274
8	1,910	2,387	2,865
10	1,528	1,910	2,292
12	1,273	1,592	1,910
14	1,091	1,364	1,637
16	955	1,194	1,432
18	849	1,061	1,273
20	764	955	1,146
22	694	868	1,042
24	637	796	955
30	509	637	764
36	424	531	637
42	364	455	546
48	318	397	477

GRADES OF EMERY

(Kent's Mechanical Engineers' Pocket Book, Eighth Edition.)

THE numbers representing the grades of emery run from 8 to 120, and the degree of smoothness of surface they leave may be compared to that left by files, as follows:

8 and 10 represent the cut of a wood rasp.
16 and 20 represent the cut of a coarse-rough file.
24 and 30 represent the cut of an ordinary rough file.
36 and 40 represent the cut of a bastard file.
46 and 60 represent the cut of a second-cut file.
70 and 80 represent the cut of a smooth file.
90 and 100 represent the cut of a superfine file.
120F and FF represent the cut of a dead smooth file.

FAHRENHEIT AND CENTIGRADE THERMOMETER SCALES

To convert Fahrenheit into Centigrade: Subtract 32 from Fahrenheit, divide remainder by 9, and multiply by 5.

To convert Centigrade into Fahrenheit: Divide by 5, multiply by 9, and add 32.

F	C	F	C	F	C	F	C	F	C
−40	−40	70	21.1	185	85	950	510	2100	1149
−35	−37.2	75	23.9	190	87.8	1000	537.8	2150	1176.5
−30	−34.4	80	26.7	195	90.6	1050	565.5	2200	1204
−25	−31.7	85	29.4	200	93.3	1100	593	2250	1232
−20	−28.9	90	32.2	205	96.1	1150	621	2300	1260
−15	−26.1	95	35	210	98.9	1200	648.5	2350	1287.5
−10	−23.3	100	37.8	212	100	1250	676.5	2400	1315.5
−5	−20.6	105	40.6	215	101.7	1300	704	2450	1343
0	−17.8	110	43.3	225	107.2	1350	732	2500	1371
5	−15	115	46.1	250	121.2	1400	760	2550	1399
10	−12.2	120	48.9	300	148.9	1450	788	2600	1426.5
15	−9.4	125	51.7	350	176.7	1500	816	2650	1455
20	−6.7	130	54.4	400	204.4	1550	844	2700	1483
25	−3.9	135	57.2	450	232.2	1600	872	2750	1510
30	−1.1	140	60	500	260	1650	899	2800	1537.5
32	0	145	62.8	550	287.8	1700	926	2850	1565
35	1.7	150	65.6	600	315.6	1750	954	2900	1593
40	4.4	155	68.3	650	343.3	1800	982	2950	1621
45	7.2	160	71.1	700	371.1	1850	1010	3000	1648.5
50	10	165	73.9	750	398.9	1900	1038	3050	1676
55	12.8	170	76.7	800	426.7	1950	1065.5	3100	1705
60	15.6	175	79.4	850	454.4	2000	1093	3150	1732
65	18.3	180	82.2	900	482.2	2050	1121	3200	1760

STANDARD DIMENSIONS OF WROUGHT IRON WELDED TUBES

BRIGGS STANDARD

DIAMETER OF TUBES			Thickness of Metal Inches	SCREWED ENDS	
Nominal Inside Inches	Actual Inside Inches	Actual Outside Inches		No. of Threads per Inch	Length of Perfect Thread Inches
⅛	0.270	0.405	0.068	27	0.19
¼	0.364	0.540	0.088	18	0.29
⅜	0.494	0.675	0.091	18	0.30
½	0.623	0.840	0.109	14	0.39
¾	0.824	1.050	0.113	14	0.40
1	1.048	1.315	0.134	11½	0.51
1¼	1.380	1.660	0.140	11½	0.54
1½	1.610	1.900	0.145	11½	0.55
2	2.067	2.375	0.154	11½	0.58
2½	2.468	2.875	0.204	8	0.89
3	3.067	3.500	0.217	8	0.95
3½	3.548	4.000	0.226	8	1.00
4	4.026	4.500	0.237	8	1.05
4½	4.508	5.000	0.246	8	1.10
5	5.045	5.563	0.259	8	1.16
6	6.065	6.625	0.280	8	1.26
7	7.023	7.625	0.301	8	1.36
8	7.982	8.625	0.322	8	1.46
9	9.000	9.688	0.344	8	1.57
10	10.019	10.750	0.366	8	1.68

WHITWORTH PIPE THREADS

THE table below shows the practice in Great Britain in regard to pipe and pipe threads. The Whitworth pipe thread, which is the standard, is cut both straight and taper, the Engineering Standards Committee recommending, for taper threads, ¾″ per foot as in the Briggs Standard.

Size Inches	Diameter	Dia. at Bottom of Thread	No. of Threads per Inch	Size Inches	Diameter	Dia. at Bottom of Thread	No. of Threads per Inch
1/8	0.3825	0.3367	28	1 5/8	2.021	1.905	11
1/4	0.518	0.4506	19	1 3/4	2.047	1.9305	11
3/8	0.6563	0.5889	19	1 7/8	2.245	2.1285	11
1/2	0.8257	0.7342	14	2	2.347	2.2305	11
5/8	0.9022	0.8107	14	2 1/4	2.5875	2.471	11
3/4	1.041	0.9495	14	2 1/2	3.0013	2.8848	11
7/8	1.189	1.0975	14	2 3/4	3.247	3.1305	11
1	1.309	1.1925	11	3	3.485	3.3685	11
1 1/8	1.492	1.3755	11	3 1/4	3.6985	3.582	11
1 1/4	1.65	1.5335	11	3 1/2	3.912	3.7955	11
1 3/8	1.745	1.6285	11	3 3/4	4.1255	4.009	11
1 1/2	1.8825	1.765	11	4	4.339	4.223	11

TAP DRILLS FOR PIPE TAPS

THE sizes of twist drills to be used in boring holes to be reamed with pipe reamers and threaded with pipe taps, are as follows:

Size Pipe Tap	BRIGGS		WHITWORTH		Size Pipe Tap	BRIGGS		WHITWORTH	
	Thread	Drill	Thread	Drill		Thread	Drill	Thread	Drill
1/8	27	21/64	28	5/16	1 3/4	.....	.....	11	1 15/16
1/4	18	27/64	19	27/64	2	11 1/2	2 3/16	11	2 3/32
3/8	18	9/16	19	9/16	2 1/4	.....	.....	11	2 13/32
1/2	14	11/16	14	11/16	2 1/2	8	2 9/16	11	2 25/32
5/8	.....	.....	14	25/32	2 3/4	.....	.....	11	3 1/32
3/4	14	29/32	14	29/32	3	8	3 3/16	11	3 9/32
7/8	.....	.....	14	1 1/16	3 1/4	.....	.....	11	3 1/2
1	11 1/2	1 1/8	11	1 1/8	3 1/2	8	3 11/16	11	3 3/4
1 1/4	11 1/2	1 15/32	11	1 15/32	3 3/4	.....	.....	11	4
1 1/2	11 1/2	1 23/32	11	1 23/32	4	8	4 3/16	11	4 1/4

TAP DRILL SIZES FOR REGULAR THREADS

THESE sizes give an allowance above the bottom of thread on sizes 3/16" to 2", varying respectively as follows: for "V" threads, .010" to .055"; for U. S. S and Whitworth threads, .005" to .027". These are found by adding to the size at bottom of thread, 1/4 of the pitch for "V" threads, and 1/8 of the pitch for U. S. S. and Whitworth, the pitch being equal to 1" divided by the number of threads per inch. In practice it is better to use a larger drill if the exact size called for cannot be had.

Size Tap	No. of Thr'd	Size of Drill			Size Tap	No. of Thr'd	Size of Drill		
		U. S. S.	V.	W.			U. S. S.	V.	W.
3/16	24	.138	.111	.129	13/16	9	.808	.790	.810
1/4	20	.191	.184	.192	1	8	.854	.832	.856
5/16	18	.248	.239	.249	1 1/16	8	.917	.894	.919
3/8	16	.302	.293	.303	1 1/8	7	.957	.932	.960
7/16	14	.354	.345	.355	1 1/4	7	1.082	1.057	1.085
1/2	13	.409	.399	.410	1 3/8	6	1.179	1.144	1.182
1/2	12	.402	.391	.403	1 1/2	6	1.304	1.269	1.307
9/16	12	.465	.453	.466	1 5/8	5 1/2	1.412	1.372	1.416
5/8	11	.518	.506	.520	1 5/8	5	1.390	1.347	1.394
11/16	11	.581	.568	.583	1 3/4	5	1.515	1.472	1.519
3/4	10	.632	.618	.634	1 7/8	5	1.640	1.597	1.644
13/16	10	.695	.680	.697	1 7/8	4 1/2	1.614	1.566	1.619
7/8	9	.745	.728	.747	2	4 1/2	1.739	1.691	1.744

A very simple rule, which is good enough in many cases, is:

Subtract the pitch of one thread from the diameter of the tap.

A 3/8" tap 16-thread would be 3/8 minus 1/16 equals 5/16 drill; a 3/4" tap, 10-thread, would be 3/4 minus 0.1 equals 0.65 or a little over 5/8", so a 5/8" drill will do nicely. With a 1" tap, 8-thread, we have 1 minus 1/8 equals 7/8" drill, which is a little large but leaves enough thread for most cases.

WEIGHTS OF ROUND, SQUARE, AND HEXAGON STEEL

Weight of 1 cubic inch, .2836 lbs. Weight of 1 cubic foot, 490 lbs.

Thickness of Diameter	WEIGHT PER INCH		
	Round	Square	Hexagon
1/8	.0035	.0044	.0038
1/4	.0139	.0177	.0154
3/8	.0313	.0405	.0345
1/2	.0557	.0709	.0614
3/4	.1253	.1622	.1382
1	.2227	.2836	.2456
1 1/4	.3480	.4431	.3838
1 1/2	.5012	.6487	.5526
1 3/4	.6821	.8685	.7521
2	.8910	1.1342	.9825
2 1/4	1.1276	1.4357	1.2434
2 1/2	1.3921	1.7724	1.5351
2 3/4	1.6845	2.1446	1.8574
3	2.0046	2.5548	2.2105
3 1/4	2.3527	2.9954	2.5918
3 1/2	2.7286	3.4740	3.0083
3 3/4	3.1323	3.9880	3.4539
4	3.5638	4.5374	3.9298
4 1/4	4.0232	5.1223	4.4364
4 1/2	4.5105	5.7426	4.9736
4 3/4	5.0255	6.6276	5.5416
5	5.5685	7.0897	6.1403
5 1/4	6.1392	7.8164	6.7697
5 1/2	6.7379	8.5786	7.4298
5 3/4	7.3643	9.3762	8.1214
6	8.0186	10.2192	8.8420
6 1/4	8.7007	11.0877	9.5943
6 1/2	9.4107	11.9817	10.3673
6 3/4	10.1485	12.9211	11.1908
7	10.9142	13.8960	12.0351
7 1/2	12.5291	15.9520	13.8158
8	14.2553	18.1497	15.7192

Multiply above weights by 1.125 for high-speed steel, .933 for wrought iron, .918 for cast iron, 1.0331 for cast brass, 1.1209 for copper, and 1.1748 for phosphor bronze.

TABLE OF DIAMETER, AREA, AND CIRCUMFERENCE OF CIRCLES

Dia.	Area	Cir.	Dia.	Area	Cir.	Dia.	Area	Cir.
1/8	.0123	.3927	16	201.06	50.26	54	2290.2	169.6
1/4	.0491	.7854	16 1/2	213.82	51.83	55	2375.8	172.8
3/8	.1104	1.178	17	226.98	53.40	56	2463.0	175.9
1/2	.1963	1.571	17 1/2	240.53	54.98	57	2551.8	179.1
5/8	.3068	1.963	18	254.47	56.55	58	2642.1	182.2
3/4	.4418	2.356	18 1/2	268.80	58.12	59	2734.0	185.3
7/8	.6013	2.741	19	283.53	59.69	60	2827.4	188.5
1	.7854	3.142	19 1/2	298.65	61.26	61	2922.5	191.6
1 1/8	.9940	3.534	20	314.16	62.83	62	3019.1	194.8
1 1/4	1.227	3.927	20 1/2	330.06	64.40	63	2117.2	197.9
1 3/8	1.485	4.319	21	346.36	65.97	64	3217.0	201.0
1 1/2	1.767	4.712	21 1/2	363.05	67.54	65	3318.3	204.2
1 5/8	2.074	5.105	22	380.13	69.11	66	3421.2	207.3
1 3/4	2.405	5.498	22 1/2	397.61	70.68	67	3525.7	210.5
1 7/8	2.761	5.890	23	415.48	72.25	68	3631.7	213.6
2	3.142	6.283	23 1/2	433.73	73.83	69	3739.3	216.7
2 1/4	3.976	7.068	24	452.39	75.40	70	3848.5	219.9
2 1/2	4.909	7.854	24 1/2	471.43	76.97	71	3959.2	223.0
2 3/4	5.939	8.639	25	490.87	78.54	72	4071.5	226.2
3	7.068	9.425	26	530.93	81.68	73	4185.4	229.3
3 1/4	8.296	10.21	27	572.56	84.82	74	4300.8	232.5
3 1/2	9.621	10.99	28	615.75	87.96	75	4417.9	235.6
3 3/4	11.044	11.78	29	660.52	91.10	76	4536.5	238.7
4	12.566	12.56	30	706.86	94.25	77	4656.7	241.9
4 1/2	15.904	14.14	31	754.77	97.39	78	4778.4	245.0
5	19.635	15.71	32	804.25	100.5	79	4901.7	248.2
5 1/2	23.758	17.23	33	855.30	103.6	80	5026.6	251.3
6	28.274	18.86	34	907.92	106.8	81	5153.0	254.5
6 1/2	33.183	20.42	35	962.11	109.9	82	5281.0	257.6
7	38.484	21.99	36	1017.9	113.1	83	5410.6	260.7
7 1/2	44.179	23.56	37	1075.2	116.2	84	5541.8	263.9
8	50.265	25.13	38	1134.1	119.4	85	5674.5	267.0
8 1/2	56.745	26.70	39	1194.6	122.5	86	5808.8	270.2
9	63.617	28.27	40	1256.6	125.6	87	5944.7	273.3
9 1/2	70.882	29.84	41	1320.2	128.8	88	6082.1	276.4
10	78.54	31.41	42	1385.4	131.9	89	6221.1	279.6
10 1/2	86.59	32.98	43	1452.2	135.1	90	6361.7	282.7
11	95.03	34.55	44	1520.5	138.2	91	6503.9	285.9
11 1/2	103.87	36.13	45	1590.4	141.4	92	6647.6	289.0
12	113.10	37.70	46	1661.9	144.5	93	6792.9	292.2
12 1/2	122.72	39.27	47	1734.9	147.6	94	6939.8	295.3
13	132.73	40.84	48	1809.6	150.8	95	7088.2	298.4
13 1/2	143.14	42.41	49	1885.7	153.9	96	7238.2	301.6
14	153.94	43.98	50	1963.5	157.1	97	7389.8	304.7
14 1/2	165.13	45.55	51	2042.8	160.2	98	7543.0	307.9
15	176.71	47.12	52	2123.7	163.3	99	7697.7	311.0
15 1/2	188.69	48.69	53	2206.2	166.5	100	7854.0	314.2

ELECTRICAL UNITS

VOLT—The unit of electrical motive force. Force required to send one ampere through one ohm of resistance.

OHM—Unit of resistance. The resistance offered to the passage of one ampere when impelled by one volt.

AMPERE—Unit of current. The current which one volt can send through a resistance of one ohm.

COULOMB—Unit of quantity. Quantity of current which, impelled by one volt, would pass through one ohm in one second.

FARAD—Unit of capacity A conductor or condenser which will hold one coulomb under the pressure of one volt.

JOULE—Unit of work. The work done by one watt in one second.

WATT—The unit of electrical energy. It is the product of ampere and volt; that is, one ampere of current flowing under a pressure of one volt gives one watt of energy.

One electrical horsepower is equal to 746 watts.

One kilowatt is equal to 1000 watts.

To find the watts consumed in a given electrical circuit, such as a lamp, multiply the volts by the amperes.

To find the volts, divide the watts by the amperes.

To find the amperes, divide the watts by the volts.

To find the electrical horsepower required by a lamp, divide the watts of the lamp by 746.

To find the number of lamps that can be supplied by one electrical horsepower of energy, divide 746 by the watts of the lamp.

To find the electrical horsepower necessary, multiply the watts per lamp by the number of lamps, and divide by 746.

To find the mechanical horsepower necessary to generate the required electrical horsepower, divide the latter by the efficiency of the generator.

To find the amperes of a given circuit, of which the volts and ohms resistance are known, divide the volts by the ohms.

To find the volts, when the amperes and watts are known, multiply the amperes by the ohms.

To find the resistance in ohms, when the volts and amperes are known, divide the volts by the amperes.

MISCELLANEOUS

To find the diameter of a circle, multiply the circumference by .31831.

To find the circumference of a circle, multiply the diameter by 3.1416.

To find the area of a circle multiply the square of the diameter by .7854.

To find the surface of a ball, multiply the square of the diameter by 3.1416.

To find the side of an equal square, multiply the diameter by .8862.

To find the cubic inches in a ball, multiply the cube of the diameter by .5236.

Doubling the diameter of a pipe increases its capacity four times.

Double riveting is from 16 to 20 times stronger than single.

One cubic foot of anthracite coal weighs about 53 pounds.

One cubic foot of bituminous coal weighs from 47 to 50 pounds.

A gallon of water (U. S. Standard) weighs 8-1/3 pounds and contains 231 cubic inches.

A cubic foot of water contains 7½ gallons, 1728 cubic inches, and weighs 62½ pounds.

To find the approximate weight of iron for round bars, multiply the square of the diameter in inches by the length in feet, and that product by 26. The product will be the weight in pounds, nearly.

To find the approximate weight of iron for square and flat bars, multiply the area of the end of the bar in inches by the length in feet and that product by 3.32. The product will be the weight in pounds, nearly.

BARS AND PLATES

IRON:	Multiply contents in cubic inches by .27777; result is weight in pounds.
STEEL:	Multiply contents in cubic inches by .28332; result is weight in pounds.
COPPER:	Multiply contents in cubic inches by .32118; result is weight in pounds.
BRASS:	Multiply contents in cubic inches by .3112; result is weight in pounds.
LEAD:	Multiply contents in cubic inches by .41015; result is weight in pounds.
ZINC:	Multiply contents in cubic inches by .25318; result is weight in pounds.
TIN:	Multiply contents in cubic inches by .36562; result is weight in pounds.
ALUMINUM:	Multiply contents in cubic inches by .09375; result is weight in pounds.

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